FINAL ENVIRONMENTAL ASSESSMENT

U.S. ARMY CYBER COMMAND AND CONTROL FACILITY

Fort George G. Meade , Maryland

Fort Gordon, Georgia

October 2013

FINDING OF NO SIGNIFICANT IMPACT
U.S. ARMY CYBER COMMAND AND CONTROL FACILITY
Fort George G. Meade, Anne Arundel County, Maryland
Fort Gordon, Richmond, Jefferson, Columbia, and McDuffie Counties, Georgia

1. Name of Action: U.S. Army Cyber Command and Control Facility at Fort George G. Meade, Maryland, or Fort Gordon, Georgia.

2. Description of Proposed Action: U.S. Army Cyber Command / 2nd Army (ARCYBER) proposes to establish and operate a Command and Control Facility at Fort Gordon, Georgia, or Fort George G. Meade, Maryland. The purpose of the Proposed Action is to construct a facility or renovate existing buildings to accommodate a workforce comprised of active duty military, government civilian, and contract personnel at either Fort Gordon or Fort Meade. ARCYBER currently has approximately 156 personnel stationed at Fort Meade and approximately 343 personnel stationed at Fort Belvoir, Virginia. However, ARCYBER needs facilities to provide the capability of growing its workforce up to 1,500 personnel with the reorganization of ARCYBER and its major supporting commands. To maximize operational efficiency, ARCYBER must consolidate its force structure currently at Fort Meade and Fort Belvoir into one location. Therefore, ARCYBER needs a Command and Control Facility that can accommodate a workforce of up to 1,500 active duty military, government civilians, and contract personnel.

3. Alternatives Evaluated: An Environmental Assessment (EA) was prepared to evaluate the potential environmental, cultural, transportation, and socioeconomic effects associated with the Proposed Action. This EA is incorporated by reference. The EA evaluates Alternatives A, C through G, and the No Action Alternative. The potential environmental impacts associated with implementation of Alternative B (Fort Meade) were covered in the 2010 East Campus EIS. The cumulative impacts on traffic for Alternative A (Fort Meade) were also covered in the 2010 East Campus EIS. The Proposed Action consists of establishing and operating a Command and Control Facility at Fort Meade or Fort Gordon. Fort Meade and Fort Gordon were considered due to their proximity to existing commands with similar missions, including the U.S. Cyber Command at Fort Meade and the Signal Center of Excellence at Fort Gordon. At Fort Meade, there are two alternatives evaluated in the EA: Alternative A) construct a 179,056-SF facility at the northwest corner of Mapes Road and Taylor Avenue; and Alternative B) construct a 179,056-SF facility within the East Campus area located within the National Security Agency's fenceline and use Building 8605 for a portion of the administrative and logistics staff. At Fort Gordon, there are five alternatives evaluated in the EA: Alternative C) construct a 179,056-SF facility at Fort Gordon on a 16-acre site southwest of the intersection of 110th Avenue and 15th Street; Alternative D) renovate several buildings and construct a 47,000-SF facility within Back Hall Campus located between 22nd Street to 25th Street and Chamberlain Avenue to Barnes Avenue; Alternative E) construct a wing on Whitelaw Hall as part of the planned Phase 2 development for the entire ARCYBER Command; Alternative F) construct a 179,056-SF facility along Kilbourne Street; and Alternative G) construct a 179,056-SF facility along 19th Street. All Fort Gordon alternative site locations are within the cantonment area of the installation. Interim facilities may be utilized while construction of the Command and Control facility is completed.

A "No Action" alternative was also included in the EA which reflects the status quo and serves as a benchmark against which federal actions can be evaluated. In this EA, the No Action alternative assumes ARCYBER functions would continue to be conducted in existing locations at Fort Meade and Fort Belvoir. Under the No Action alternative, operational efficiency would continue to suffer as a result of coordinating operations occurring at two geographically-separated units using substandard communication infrastructure. Moreover, ARCYBER would be limited in its ability to meet operational requirements by restricting workforce growth due to inadequate space accommodations. Additional alternatives to the Proposed Action included utilizing other Federal facilities located on Fort Meade or Fort Gordon, consolidating the mission at Fort Belvoir, leasing commercial facilities located off of Fort Meade and Fort Gordon, and renovation of current facilities on Fort Meade or Fort Gordon. None of these alternatives were considered feasible and all were dismissed from further evaluation.

4. Anticipated Impacts: Based on the analysis contained in the EA, implementation of the Proposed Action at either of the seven alternatives could result in short–term minor adverse impacts to land use, noise, rare, threatened or endangered species, potable water, sanitary sewer/wastewater, and power from the construction of any of the alternatives; short-term and long-term minor adverse impacts would also occur to aesthetics, air quality, soils, vegetation, wildlife resources, solid waste generation, and possibly stormwater; short term minor adverse impacts and long-term moderate to severe impacts to traffic; and short-term and long-term minor beneficial impacts to socioeconomics and possibly hazardous, toxic, and radioactive substances would also be expected. There would be no unmitigated significant impacts for the direct impacts in any of these resource areas. There would be no disproportional impacts to environmental justice/protection of children.

   While implementation of the Proposed Action has the potential to result in adverse traffic effects to select intersections, the application of the proposed mitigation measures at any of the Fort Gordon locations described in the EA would lessen the projected traffic impacts and is expected to result in less than significant effects. For the Fort Meade alternatives, cumulative severe traffic impacts and associated mitigation measures were adequately analyzed in the 2010 East Campus EIS.

   For any of the alternative locations evaluated in the EA, the Proposed Action will comply with all applicable federal, state, and local regulations and permit requirements.

5. Public Involvement: The Draft EA and Draft FNSI were made available for public review 26 September 2013 through 26 October 2013 at the local public libraries located in Anne Arundel County, Maryland and in Richmond County, Georgia. Notices of Availability of the EA and Draft FNSI were published in the Augusta Chronicle, Baltimore Sun and The Capital. Comments were received from the Maryland Department of Planning, the Georgia Historic Preservation Division, the US Fish and Wildlife Service, Anne Arundel County, the Georgia Department of Natural Resources, the Maryland Department of Transportation, the Maryland Department of the Environment, and the Environmental Protection Agency, Region III. All comments received during this public review period, including agency responses were considered. Comments and concerns pertaining to traffic, air quality, and natural resources within the Fort Meade area were received and considered.

6. Mitigation: Mitigation measures in association with the Proposed Action include a variety of applicable best management practices (BMPs) to be implemented both during and after

construction to avoid and minimize adverse environmental effects. These are identified in the EA and include:

- Compliance with a State-approved stormwater management plan and erosion and sediment control plan, using stormwater management and erosion control BMPs required by the State.
- For Fort Meade, compliance with the Forest Conservation Act to the maximum extent practical. Impacts will be mitigated on the installation in accordance with the current Fort Meade Forest Conservation Act and Tree Management Policy. For Fort Gordon, compliance with the appropriate installation policy Tree preservation measures will be incorporated into construction plans.
- Compliance with a Clean Water Act Section 404 permit and (for Fort Meade) the Maryland Nontidal Wetland Protection Act. Any required mitigation measures in the permit will be complied with.
- All construction equipment will be used according to BMPs, in a manner that would minimize the spread of invasive species.
- Compliance with all applicable federal, state, and local air regulations.
- Conducting construction activities during normal weekday work hours (generally 7 a.m. to 5 p.m.) and avoiding conducting construction activities on evenings and weekends to the extent practical.
- Using native vegetation to stabilize soil and preservation of natural areas where possible.

I received and have considered Anne Arundel County comments stating that present traffic generated by current activities at Fort Meade already impacts local roadway capacity, causes network failures, and seriously impairs emergency response. As explained in the EA (EA Section 2.0 and Appendix D), Alternative B (Fort Meade) would be located within the area and within the capacity previously evaluated in the 2010 East Campus EIS; traffic impacts and mitigation measures were adequately analyzed in the East Campus EIS. Additionally, for both Alternatives A and B, cumulative traffic impacts would be significant and were adequately analyzed, and had mitigation identified in the 2010 East Campus EIS. Accordingly, an additional EIS is not required for Alternatives A and B.

All the other action alternatives could result in significant impacts on traffic in specific locations, which are identified in Section 5.12 of the EA. The EA identifies mitigation measures for each of these alternatives that would reduce the impacts to below a level of significance; these include installation of traffic signals and revision of traffic signal operation, as appropriate.

7. Finding of No Significant Impact: After a review of the EA and the coverage of cumulative traffic impacts in the 2010 East Campus EIS at Fort Meade, I have determined that any of the alternatives evaluated may be selected for implementation. I have concluded that implementation of the Proposed Action at Fort Gordon will require implementation of select traffic mitigation measures to reduce impacts to less than significant; no other significant impacts to the natural environment, cultural resources, or human environment would result. Based upon the aforementioned, preparation of an Environmental Impact Statement is not required for any of the alternatives.

Date: 12 Dec 2013

James L. Huggins, Jr.
Lieutenant General, U.S. Army
Deputy Chief of Staff, G-3/5/7

FINAL ENVIRONMENTAL ASSESSMENT

U.S. ARMY CYBER COMMAND AND CONTROL FACILITY

Fort George G. Meade , Maryland

Fort Gordon, Georgia

October 2013

ENVIRONMENTAL ASSESSMENT
U.S. ARMY CYBER COMMAND AND CONTROL FACILITY
U.S. Army Garrison Fort George G. Meade, Maryland
U.S. Army Garrison Fort Gordon, Georgia

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EXECUTIVE SUMMARY

INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the potential environmental, cultural, transportation, and socioeconomic effects associated with the establishment and operation of a U.S. Army Cyber Command / 2nd Army (ARCYBER) Command and Control Facility at Fort George G. Meade, Maryland (hereinafter referred to as Fort Meade), or at Fort Gordon, Georgia. ARCYBER leads a corps of 21,000 soldiers and civilians who serve worldwide operating and defending all Army networks with supporting organizations such as the Army Network Enterprise Technology Command, 780th MI Brigade, and 1st Information Operations. ARCYBER plans, coordinates, integrates, synchronizes, directs, and conducts network operations and defense of all Army networks; when directed, ARCYBER conducts cyberspace operations in support of full spectrum operations to ensure U.S./Allied freedom of action in cyberspace, and to deny the same to our adversaries.

ARCYBER currently has approximately 156 active duty military, government civilians, and contract personnel employed at four different Fort Meade locations and approximately 343 active duty military, government civilians, and contract personnel employed at Fort Belvoir, Virginia. However, ARCYBER needs facilities to provide the capability of growing its workforce up to 1,500 personnel with the reorganization of ARCYBER and its major supporting commands. To maximize operational efficiency, ARCYBER must consolidate its force structure currently at Fort Meade and Fort Belvoir into one location. Therefore, ARCYBER needs a Command and Control Facility that can accommodate a workforce of up to 1,500 active duty military, government civilians, and contract personnel.

This EA was prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 *et seq.*); the Council on Environmental Quality (CEQ) regulations that implement NEPA (Title 40 Code of Federal Regulations [CFR], Parts 1500 to 1508); and 32 CFR 651.

BACKGROUND AND SETTING

Fort Meade became an active permanent U.S. Army installation in 1917 and is located approximately midway between Baltimore, Maryland, and Washington, DC, encompassing approximately 5,139 acres in Anne Arundel County, Maryland. Fort Meade supports over 90 tenant organizations from all military services and several federal agencies.

Fort Gordon was established in 1941. It encompasses approximately 55,600 acres in east central Georgia. The majority of the installation and the entire cantonment area lie within Richmond County, with a small portion of the training area in Jefferson, Columbia, and McDuffie counties. Fort Gordon is the largest communications training facility (offering 130 courses to 16,000 troops per year) in the Armed Forces, and is the focal point for the development of tactical communications and information systems.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to construct a new facility or renovate existing buildings to accommodate an anticipated workforce of up to 1,500 active duty military, government civilian, and contract personnel at either Fort Gordon or Fort Meade. With the anticipation of expanding the existing workforce of approximately 499 personnel to upwards of 1,500 personnel, a centralized Command and Control Facility is needed to maximize operational efficiency.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

ARCYBER proposes to establish and operate a Command and Control Facility at Fort Meade or Fort Gordon. The establishment would be accomplished by constructing a new facility or renovate existing buildings to accommodate an anticipated workforce of up to 1,500 active duty military, government civilian, and contract personnel. Once established, approximately 156 personnel at Fort Meade and approximately 343 personnel at Fort Belvoir would relocate to the new Command and Control Facility. The EA analyzes three courses of actions: Fort Meade Course of Action, Fort Gordon Course of Action, and the No Action alternative. Within the Fort Meade and Fort Gordon Courses of Action, a total of seven site locations were considered. A description of each course of action is provided below.

Fort Meade Course of Action: Interim stationing would not be necessary at the Fort Meade location. Final stationing options at Fort Meade include the following two site alternatives:

- Alternative A: Construct a 179,056-square foot (SF) facility at Fort Meade within an approximately 18-acre site at the northwest corner of Mapes Road and Taylor Avenue to include parking and building access.

- Alternative B: Construct a 179,056-SF facility within the East Campus area located within the National Security Agency's fenceline and use Building 8605 for a portion of the administrative and logistics staff. Parking and access would also be provided at this location.

Fort Gordon Course of Action: Interim stationing would be required during construction. During this time, current personnel located at Fort Belvoir and Fort Meade would be temporarily relocated to several buildings within Back Hall Campus at Fort Gordon. Renovation to these buildings may be required to accommodate the temporary stationing. Final stationing options at Fort Gordon include the following five site alternatives, all located within the cantonment area:

- Alternative C: Construct a 179,056-SF facility at Fort Gordon in a 16-acre site southwest of the intersection of 110th Avenue and 15th Street. Parking and access would also be provided at this location.

- Alternative D: Renovate several buildings within Back Hall Campus between 22nd Street to 25th Street and Chamberlain Avenue to Barnes Avenue; an additional 47,000-SF facility would be constructed.

- Alternative E: Construct a wing on Whitelaw Hall for the entire ARCYBER Command as part of the planned Whitelaw Hall Phase 2 development.

- Alternative F: Construct a 179,056-SF facility on Kilbourne Street to house the entire ARCYBER Command to include parking and building access.

- Alternative G: Construct a 179,056-SF facility on 19th Street to house the entire ARCYBER Command to include parking and building access.

No Action Alternative: Under the No Action alternative, ARCYBER functions would continue to be conducted in existing locations at Fort Meade or Fort Belvoir. Operational efficiency would continue to suffer as a result of coordinating operations occurring at two geographical separated units using substandard communication infrastructure. Moreover, ARCYBER would be limited in their ability to meet operational requirements by restricting workforce growth due to inadequate space accommodations.

SUMMARY OF ENVIRONMENTAL EFFECTS

As detailed in this EA, there would be expected short–term minor adverse impacts to land use, noise, potable water, sanitary sewer/wastewater, and power from the construction of any of the alternatives; short-term and long-term minor adverse impacts would also occur to aesthetics, air quality, soils, vegetation, wildlife resources, solid waste generation, and possibly stormwater; short term minor adverse impacts and long-term moderate to severe impacts to traffic; and short-term and long-term minor beneficial impacts to socioeconomics and possibly Hazardous, Toxic, and Radioactive Substances (HTRS) would also be expected. There would be no disproportional impacts to environmental justice/protection of children and no significant cumulative impacts would be expected for any of the proposed alternatives.

While implementation of each alternative has the potential to result in adverse traffic effects to select intersections, the application of the proposed mitigation measures described in Tables 5-7 and 5-9, and detailed further in Appendix D would lessen the projected traffic impacts and is expected to result in no substantial effects.

Table ES-1 summarizes the potential consequences the Proposed Action and No Action alternative would have on resources evaluated in the EA.

PUBLIC INVOLVEMENT

The Draft EA and Draft Finding of No Significant Impact (FNSI) were made available for public review 26 September 2013 through 26 October 2013 at the local public libraries located in Anne Arundel County, Maryland and in Richmond County, Georgia. Notices of Availability of the Draft EA and Draft FNSI were published in the Augusta Chronicle, Baltimore Sun and The Capital. All comments received during this public review period, including agency responses were considered.

CONCLUSION

Based on the evaluation of environmental consequences accomplished by this EA, implementation of the Proposed Action would not have a significant environmental impact within the meaning of NEPA Section 102(2) (c), and preparation of an Environmental Impact Statement is not required; therefore, a Finding of No Significant Impacts has been prepared.

Table ES-1: SUMMARY OF POTENTIAL INDIVIDUAL AND CUMULATIVE EFFECTS ON ENVIRONMENTAL RESOURCES								
Environmental Consequences								
Resource Area	**Proposed Actions at Ft. Meade**		**Proposed Actions at Ft. Gordon**					**No Action**
	Alternative A	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**	**Alternative F**	**Alternative G**	
Physical Environment								
Land Use	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Visual and Aesthetic Value	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Air Quality	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Noise	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Geology and Soils	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Prime and Unique Farmland	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Water Resources								
Surface Waters	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	No Impacts

Table ES-1: SUMMARY OF POTENTIAL INDIVIDUAL AND CUMULATIVE EFFECTS ON ENVIRONMENTAL RESOURCES								
Environmental Consequences								
Resource Area	**Proposed Actions at Ft. Meade**		**Proposed Actions at Ft. Gordon**					**No Action**
	Alternative A	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**	**Alternative F**	**Alternative G**	
Water Resources cont'd								
Stormwater	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	No Impacts
Floodplains	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Groundwater	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Coastal Zone	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Biological Resources								
Wetlands	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Vegetation	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Very Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Wildlife Resources	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Very Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Rare, Threatened, or Endangered Species	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	Short-term Minor Adverse Impacts	No Impacts
Aquatic Habitat	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Wild and Scenic Rivers	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Cultural Resources	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts

Table ES-1: SUMMARY OF POTENTIAL INDIVIDUAL AND CUMULATIVE EFFECTS ON ENVIRONMENTAL RESOURCES								
Environmental Consequences								
Resource Area	**Proposed Actions at Ft. Meade**		**Proposed Actions at Ft. Gordon**					**No Action**
	Alternative A	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**	**Alternative F**	**Alternative G**	
Biological Resources cont'd								
Hazardous, Toxic, and Radioactive Substances	No Impacts	Possible short-term minor adverse impacts and long-term minor beneficial impacts	No Impacts	Possible short-term minor adverse impacts and long-term minor beneficial impacts	No Impacts	No Impacts	No Impacts	No Impacts
Infrastructure And Utilities								
Traffic, Roadways, and Transportation Systems*	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	No Impacts
Potable Water	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Sanitary Sewer/ Wastewater	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Power	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Solid Waste	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts

Table ES-1: SUMMARY OF POTENTIAL INDIVIDUAL AND CUMULATIVE EFFECTS ON ENVIRONMENTAL RESOURCES								
Environmental Consequences								
Resource Area	**Proposed Actions at Ft. Meade**		**Proposed Actions at Ft. Gordon**					**No Action**
	Alternative A	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**	**Alternative F**	**Alternative G**	
Infrastructure And Utilities cont'd								
Socio-economic	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	No Impacts
Environmental Justice/ Protection of Children	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Impacts
Cumulative Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Impacts

*While implementation of each alternative has the potential to result in adverse traffic effects to select intersections, the application of the proposed mitigation measures described in Tables 5-7 and 5-9, and detailed further in Appendix D would lessen the projected traffic impacts and is expected to result in no substantial effects.

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1.0 PURPOSE, NEED, AND SCOPE

1.1 INTRODUCTION

On October 1st, 2010, the U.S. Army activated Army Cyber Command/ 2nd Army (ARCYBER). The Command is leading a corps of 21,000 soldiers and civilians who serve worldwide operating and defending all Army networks with supporting organizations such as the Army Network Enterprise Technology Command (NETCOM), 780th MI Brigade and 1st Information Operations. ARCYBER plans, coordinates, integrates, synchronizes, directs, and conducts network operations and defense of all Army networks; when directed, ARCYBER conducts cyberspace operations in support of full spectrum operations to ensure U.S./Allied freedom of action in cyberspace, and to deny the same to our adversaries.

Fort George G. Meade, Maryland (hereinafter referred to as Fort Meade) became an active permanent U.S. Army installation in 1917 and is located approximately midway between Baltimore, Maryland, and Washington, D.C., encompassing approximately 5,139 acres in Anne Arundel County, Maryland (Figure 1-1, Appendix A). Fort Meade supports over 90 tenant organizations from all military services and several federal agencies. The major tenants include the National Security Agency (NSA), the Defense Information School (DINFOS), the 704th Military Intelligence Brigade, 902nd Military Intelligence Group, the U.S. Environmental Protection Agency (USEPA) Science Center, Asymmetric Warfare Group (AWG), Defense Media Activity (DMA), Department of Defense Consolidated Adjudication Facility (DODCAF), Defense Information System Agency (DISA), and 1st Army Division East.

Fort Gordon, Georgia was established in 1941. Fort Gordon encompasses approximately 55,600 acres in east central Georgia. The majority of the installation and the entire cantonment area lie within Richmond County, with a small portion of the training area in Jefferson, Columbia, and McDuffie Counties (Figure 1-2, Appendix A). It is the current home of the U.S. Army Signal Corps. Fort Gordon is the largest communications training facility (offering 130 courses to 16,000 troops per year) in the Armed Forces, and is the focal point for the development of tactical communications and information systems (Fort Gordon, 2008). The Installation trains soldiers with the most sophisticated communications equipment and technology in existence. The Leader College of Information Technology is the U.S. Army's premiere site for all automation training and home to the Regimental Non-Commissioned Officer (NCO) Academy. Fort Gordon is also the home to the U.S. Army Garrison, the Gordon Regional Security Operations Center (GRSOC) (including the 706th Military Intelligence Group, the Naval Security Group Activity (NSGA), and United States Air Force 480th Intelligence, Surveillance, and Reconnaissance Group), 63rd Signal Battalion, the Southeast Region Medical Command, the Southeast Region Dental Command, Southeast Region Veterinary Command, the Dwight D. Eisenhower Army Medical Center (DDEAMC), U.S. Army's only Dental Laboratory, 67th Signal Battalion, Regional Training Site-Medical, National Science Center-Army, two deployable brigades (35th Signal Brigade and 513th Military Intelligence Brigade), and Georgia National Guard Youth Challenge Academy.

1.2 BACKGROUND

ARCYBER currently has approximately 156 active duty military, government civilians, and contract personnel employed at Fort Meade and approximately 343 active duty military, government civilians, and contract personnel employed at Fort Belvoir, Virginia. ARCYBER is

expected to increase its current workforce to approximately 855 personnel by late 2012/early 2013. However, ARCYBER needs facilities to provide the capability of growing its workforce up to 1,500 personnel with the reorganization of ARCYBER and its major supporting commands. To maximize operational efficiency, ARCYBER must consolidate its force structure currently at Fort Meade and Fort Belvoir into one location. Therefore, ARCYBER needs a Command and Control Facility that can accommodate a workforce of up to 1,500 active duty military, government civilians, and contract personnel.

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to construct a new facility or renovate existing buildings to accommodate an anticipated workforce of up to 1,500 active duty military, government civilian, and contract personnel at either Fort Gordon or Fort Meade. With the anticipation of expanding the existing workforce of approximately 499 personnel to upwards of 1,500 personnel, a centralized Command and Control Facility is needed to maximize operational efficiency.

This Environmental Assessment (EA) was prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 *et seq.*); the Council on Environmental Quality (CEQ) regulations that implement NEPA (Title 40 Code of Federal Regulations [CFR], Parts 1500 to 1508); and AR 200-1, *Environmental Protection and Enhancement*, as promulgated in 32 CFR 651.

1.4 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This EA was prepared to analyze the potential environmental effects associated with the establishment and operation of a proposed ARCYBER Command and Control Facility at Fort Gordon or Fort Meade.

Environmental effects would include those related to construction and operation of the Proposed Action. The Proposed Action is described in Section 2.0, and alternatives, including the no action alternative, are described in Section 3.0. Baseline environmental conditions are described in Section 4.0 and potential effects to the baseline environment are described in Section 5.0. Section 5.0 also addresses the potential for cumulative effects. Findings and conclusions are presented in Section 6.0.

1.5 OTHER RELATED NEPA DOCUMENTATION

In accordance with CEQ regulations for implementing NEPA and with the intent of reducing the size of this document, the following materials relevant to the Proposed Action are incorporated by reference:

- Final Environmental Impact Statement (EIS) for Addressing Campus Development at Fort George G. Meade, Maryland dated September 2010. This East Campus EIS analyzed the potential effects associated with the development of a portion of the East Campus (formerly known as Site M) as an operational complex, and construct and operate consolidated facilities for intelligence community use. The permanent facilities would be proposed for construction in Fiscal Year 2014 (FY14) (NSA, 2010).

- Final EIS for Fort George G. Meade Base Realignment and Closure (BRAC) 2005 and Enhanced Use Lease (EUL) Actions, Implementation dated August 2007. This BRAC EIS analyzed the potential effects of implementing Army transformation activities and EUL actions at Fort Meade. The action involved increasing workforce personnel by 5,696 and construction of new facilities. The EUL action involved leasing two parcels of land totaling 173 acres for administrative buildings and a third parcel of land totaling 367 acres for development of two golf courses (USACE, 2007).
- Fort Meade Integrated Natural Resource Management Plan (INRMP) dated June 2007.
- Fort Meade Integrated Cultural Resources Management Plan (ICRMP) dated October 2011.
- Fort Gordon INRMP dated September 2008.
- Fort Gordon ICRMP dated January 2011.

1.6 PUBLIC INVOLVEMENT

A Public Notice was released in April 2012 to appropriate local, state, and federal agencies. In addition, coordination with the U.S. Fish and Wildlife Service (USFWS), the Maryland Department of Natural Resources (MDNR), Georgia Department of Natural Resources (GADNR), and the Maryland and Georgia State Historic Preservation Officers (SHPOs) were initiated in April, June, and August 2012 and September 2013. Copies of the Public Notice, coordination letters, mailing list, and response letters are included in Appendices B and C.

Supplements to the Public Notice were released in August 2012 and September 2013 which included additional alternative site locations at Fort Gordon. The notices were sent to the same agencies who received a copy of the April 2012 Public Notice.

Public participation opportunities with respect to this EA and decision making on the Proposed Action are guided by 32 CFR Part 651. The Draft EA was made available to the public for 30 days, from 26 September to 26 October 2013, along with a draft Finding of No Significant Impact (FNSI). At the end of the 30-day public review period comments were received and considered on the Proposed Action, the Draft EA, or Draft FNSI. As such, the Army will execute the FNSI and proceed with implementation of the Proposed Action; with implementation of traffic minimization measures, the Proposed Action will not result in significant impacts, and preparation of an EIS is not needed.

1.7 ENVIRONMENTAL LAWS AND REGULATIONS

Army decisions that affect environmental resources and conditions occur within the framework of numerous laws, regulations, and Executive Orders (EOs). Some of these authorities prescribe standards for compliance while others require specific planning and management actions to protect environmental values potentially affected by Army actions. These include, but are not limited to: the Clean Air Act; Clean Water Act (CWA); Noise Control Act; Farmland Protection Policy Act; Endangered Species Act; Migratory Bird Treaty Act; National Historic Preservation Act (NHPA); Archaeological Resources Protection Act; Native American Graves Protection and Repatriation Act; American Indian Religious Freedom Act; Resource Conservation and Recovery Act; EO 11988, *Floodplain Management*; EO 11990, *Protection of Wetlands*; EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*;

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. Key provisions of appropriate statutes and EOs are described in more detail throughout the text of this EA.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

ARCYBER proposed to establish and operate a Command and Control Facility at Fort Meade or Fort Gordon. The establishment would be accomplished by constructing a new facility or renovate existing buildings to accommodate an anticipated workforce of up to 1,500 active duty military, government civilian, and contract personnel. Once established, approximately 156 personnel at Fort Meade and approximately 343 personnel at Fort Belvoir would relocate to the new Command and Control Facility. Fort Meade and Fort Gordon were considered due to their proximity to existing commands with similar missions, including the U.S. Cyber Command at Fort Meade and the Signal Center of Excellence at Fort Gordon. The EA analyzes three courses of actions: Fort Meade Course of Action, Fort Gordon Course of Action, and the No Action alternative. Within the Fort Meade and Fort Gordon Courses of Action, a total of seven site locations were considered that meet the purpose and need of the Proposed Action. A description of each course of action is provided below.

Fort Meade Course of Action: Interim stationing would not be necessary at the Fort Meade location. Final stationing options at Fort Meade include the following two alternatives:

- Alternative A: Construct a new 179,056-square foot (SF) facility at Fort Meade within an approximately 18-acre site at the northwest corner of Mapes Road and Taylor Avenue. Parking and access would also be provided at this location.

- Alternative B: Construct a new facility within the East Campus area located within the National Security Agency's fenceline and use Building 8605 for a portion of the administrative and logistics staff. Impacts associated with the East Campus component of the alternative have been assessed in the East Campus EIS. Parking and access would also be provided at this location.

Figure 2-1 (Appendix A) shows the possible layout of the Fort Meade alternatives.

Fort Gordon Course of Action: Interim stationing would be required during construction. During this time, current personnel located at Fort Belvoir and Fort Meade would be temporarily relocated to several buildings within Back Hall Campus at Fort Gordon. Renovation to these buildings may be required to accommodate the temporary stationing. Final stationing options at Fort Gordon include the following five alternatives all located within the cantonment area:

- Alternative C: Construct a new 179,056-SF facility at Fort Gordon in a 16-acre site southwest of the intersection of 110th Avenue and 15th Street. Parking and access would also be provided at this location.

- Alternative D: Renovate several buildings within Back Hall Campus between 22nd Street to 25th Street and Chamberlain Avenue to Barnes Avenue and construct an additional 47,000-SF facility.

- Alternative E: Construct a new wing on Whitelaw Hall for the entire ARCYBER Command as part of the planned Whitelaw Hall Phase 2 development.

- Alternative F: Construct a new 179,056-SF facility on Kilbourne Street to house the entire ARCYBER Command. Parking and access would also be provided at this location.

- Alternative G: Construct a new 179,056-SF facility on 19th Street to house the entire ARCYBER Command. Parking and access would also be provided at this location.

Figure 2-2 (Appendix A) shows the possible locations for the Fort Gordon alternatives under consideration.

The proposed Command and Control Facility would include an administrative area divided into specified security zones and operations area that includes special use space for the NSA, accredited Sensitive Compartmented Information Facility (SCIF), Operations Center (OC), Network Operations Center (NOC) and a data storage center. Construction will include redundant mechanical and electrical systems with provisions to support user installed Uninterrupted Power Systems (UPS) and dual generator backup power to critical areas, secure organizational vehicle parking, antenna pad, loading/service areas, information systems, fire protection and alarm systems, Intrusion Detection System (IDS) installation, and Energy Monitoring Control Systems (EMCS) connection.

Supporting facilities include site development, utilities and connections, lighting, paving, parking, walks, curbs and gutters, storm drainage, information systems, landscaping and signage. Heating and air conditioning will be provided by self-contained system.

This project has been coordinated with installation physical security plans, and physical security and antiterrorism protection measures will be incorporated. This project has been considered for joint use potential and will be available for use by other components. Measures in accordance with the Department of Defense (DoD) Minimum Antiterrorism for Buildings standards will be provided.

All utility systems and services would be laid out and designed in accordance with applicable codes, requirements, and guidelines. Utility lines in the areas are expected to be adequate to serve the facility.

Approximately 28,000 square yards of parking and driveway access would be required to support the personnel requirements along with approximately 4,200 SF of sidewalks. Pervious pavers will be used to minimize stormwater impacts, and trees will be incorporated into the parking lot design in order to minimize heat trap effects of blacktop areas.

If ARCYBER constructs a new facility, sustainable principles, to include Life Cycle cost-effective practices, will be integrated into the design, development, and construction of the project in accordance with EO 13423, 10 USC 2802(c), and other applicable laws and EOs.

No designs have been started as no site has been selected for the Proposed Action. Any new construction would be expected to meet Leadership in Energy and Environmental Design (LEED) standards.

3.0 ADDITIONAL ALTERNATIVES CONSIDERED

3.1 INTRODUCTION

This chapter describes the alternatives and summarizes the environmental impacts. In accordance with CEQ guidance in 40 CFR 1502.14, the purpose of this chapter is to sharply define the differences between the alternatives.

3.2 NO ACTION ALTERNATIVE

NEPA regulations refer to the continuation of the present course of action without the implementation of or in the absence of the proposed action, as the "No Action Alternative." Inclusion of the No Action alternative is the baseline against which Federal actions are evaluated, and is prescribed by the CEQ regulations and 32 CFR 651.

Under the No Action alternative, no new facilities would be constructed for ARCYBER Command and current facilities would continue to be utilized. The current facilities are unsuitable for accomplishing the current mission and do not have adequate space to support all of the incoming personnel. The unit suffers from inefficient space utilization caused by the existing building configuration. The existing facilities are in poor condition and do not meet current standards and safety requirements, including building construction, fire protection, and electrical codes. Renovations to address space, safety, and function of the current facilities could allow the existing workforce to continue operations may be accomplished under this alternative. However, this alternative would not provide space for the increase in ARCYBER personnel.

It should be noted, that Fort Meade anticipates development of the East Campus area of the installation regardless of the location of the ARCYBER project. Impacts associated with this development have been assessed in the September 2010 EIS entitled "*Addressing Campus Development at Fort George G. Meade, Maryland*". The impacts associated with the East Campus development include impacts related to Alternative B discussed throughout this EA. However, as no timeframe has been established for this development, the No Action alternative is considered to be no construction. The development of the East Campus is addressed in Cumulative Impacts.

Implementing the No Action alternative would not satisfy the purpose and need to provide needed space for an increased workforce.

3.3 OTHER ALTERNATIVES CONSIDERED BUT ELIMINATED

Several other alternatives were considered for providing adequate facilities for ARCYBER, including using other Federal facilities located on Fort Meade or Fort Gordon, leasing commercial facilities off one of these two bases, and renovation of current facilities at either Fort Meade or Fort Gordon. All these were dismissed from further evaluation as discussed below.

Currently, no Federal facilities exist at Fort Meade or Fort Gordon to meet the objective of providing adequate contiguous working space for ARCYBER and supporting units. Similarly, no

Federal facilities exist near either of these installations that could meet their requirements. Due to the nature of their mission, the mission space must be contiguous and cannot be separated among other buildings or other installations.

Due to security requirements and the highly classified nature of the mission, commercial facilities are not an option nor are they available. No commercial facility can support the unique requirements, extensive secure communications infrastructure, and special operational requirements.

3.4 PREFERRED ALTERNATIVE

ARCYBER does not have a preferred alternative at this time. ARCYBER will select one or more of the alternatives described in Section 2.0 for design and construction to implement the Proposed Action. Due to the nature of the ARCYBER activities and the existing functions at Fort Meade and Fort Gordon, it is best to co-locate ARCYBER at one of these installations.

4.0 AFFECTED ENVIRONMENT

This section describes the environment that would be affected by establishing and operating an ARCYBER Command and Control Facility at Fort Meade or at Fort Gordon. The affected environment focuses on those features of the environment that could potentially be impacted from implementing the Proposed Action. Therefore, the region of influence (ROI) delimits the geographic extent of the affected environment and subsequent environmental effects analysis, which is included in Section 5.0. For this EA, the ROI encompasses the immediate vicinity of the Proposed Action Alternative site locations as well as the immediate surrounding vicinity.

Each environmental, cultural, and social resource category typically considered in an EA was reviewed for its applicability to the project to be funded under the Proposed Action. Through this analysis, which is summarized in Table 4-1, resource categories clearly not applicable to the alternatives were screened from further evaluation. Only those resources potentially affected by the Proposed Action are discussed further in this section and analyzed for potential impacts.

Table 4-1: COMPLIANCE WITH FEDERAL ENVIRONMENTAL STATUTES AND EXECUTIVE ORDERS

Acts	Compliance at Fort Meade	Compliance at Fort Gordon
Clean Air Act, as amended (Public Law 88-206)	FULL	FULL
Clean Water Act, as amended (Public Law 95-217)	FULL	FULL
Coastal Zone Management Act (Public Law 92-583)	FULL	N/A
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. §9601 et seq.)	FULL	FULL
Endangered Species Act of 1973, as amended (Public Law 93-205)	FULL	FULL
Farmland Protection Policy Act (Public Law 97-98)	N/A	N/A
Fish and Wildlife Coordination Act, as amended (16 United States Code [U.S.C.] 661, et seq.)	FULL	FULL
Migratory Bird Treaty Act (16 U.S.C §§703-712, et seq.)	FULL	FULL
National Environmental Policy Act of 1969 (Public Law 91-190)	FULL	FULL
National Historic Preservation Act of 1966, as amended (Public Law 89-665)	FULL	FULL
Noise Control Act of 1972, as amended (Public Law 92-574)	FULL	FULL
Resource Conservation and Recovery Act (Public Law 94-580)	FULL	FULL
Safe Drinking Water Act, as amended (Public Law 93-523)	FULL	FULL

Table 4-1: COMPLIANCE WITH FEDERAL ENVIRONMENTAL STATUTES AND EXECUTIVE ORDERS		
Acts	**Compliance at Fort Meade**	**Compliance at Fort Gordon**
Solid Waste Disposal Act of 1965, as amended (Public Law 89-272, Title II)	FULL	FULL
Toxic Substances Control Act of 1976 (Public Law 94-469)	FULL	FULL
Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. §1101, et seq.)	FULL	FULL
Wetlands Conservation Act (Public Law 101-233)	FULL	FULL
Wild and Scenic Rivers Act (Public Law 90-542, as amended)	FULL	FULL
Sikes Act, as amended (Public Law 86-797)	FULL	FULL
Archaeological Resources Protection Act, as amended (Public Law 96-95)	FULL	FULL
Executive Orders (EO)		
Floodplain Management (EO 11988)	FULL	FULL
Protection of Wetlands (EO 11990)	FULL	FULL
Environmental Justice in Minority Populations and Low-Income Populations (EO 12898)	FULL	FULL
Federal Compliance with Pollution Control Standards (EO 12088)	FULL	FULL
Protection of Children from Environmental Health Risks and Safety Risks (EO 13045)	FULL	FULL
Consultation and Coordination with Indian Tribal Governments (EO 13175)	FULL	FULL
Strengthening Federal Environmental, Energy, and Transportation Management (EO 13514)	FULL	FULL
Chesapeake Bay Protection and Restoration (EO 13508)	FULL	N/A

4.1 LAND USE

4.1.1 Fort Meade

Fort Meade encompasses approximately 5,139 acres and is located in the northwest corner of Anne Arundel County, Maryland. The installation is located approximately 17 miles southwest of downtown Baltimore, Maryland, and approximately 24 miles northeast of Washington, DC. The State Capitol city of Annapolis lies approximately 14 miles southeast.

4.1.1.1 Regional Land Use at Fort Meade

Fort Meade is surrounded to the north, west, and east by residential areas, commercial centers, a mix of light industrial uses, and open space and undeveloped areas. Directly to the south of Fort Meade are the Tipton Airport and 12,750-acre Patuxent Research Refuge, part of USFWS's National Wildlife Refuge System. To the southwest of Fort Meade is the 800-acre parcel that houses DC's New Beginnings Youth Development Center (Atkins, 2011). The community land use encompasses a mix of facilities including religious, family support, personnel services, professional services, medical, community, housing, commercial, and recreational services. The professional/institutional land use provides for non-tactical organizations including military schools, headquarters, major commands, and non-industrial research, development, test, and evaluation.

4.1.1.2 Installation Land Use at Fort Meade

Fort Meade is home to over 90 partner organizations from the Army, Navy, Air Force, Marines and Coast Guard, as well as several federal agencies such as the NSA, DINFOS, the USEPA, the Defense Courier Service, and the Office of Personnel Management. The Post has administrative buildings, industrial areas in the form of motor pools and warehouses, and a significant number of family housing units which are currently being upgraded under the Residential Communities Initiative (RCI). The Post also has unaccompanied personnel housing, recreational areas and a shopping complex with a main Post Exchange, Commissary, bank, gas station, Post Office, and a bowling alley.

4.1.1.3 Site Specific Land Use at Fort Meade Project Areas

The East Campus makes up approximately 227 acres of open space and Tenant Agency land use. As open space this area includes the now closed golf course.

Building 8605 is located in the Troop land use zone (Figure 4-1, Appendix A). This land use is designated for operational facilities for Table of Organization and Equipment (TOE) units, Basic Combat Training (BCT) and One Station Unit Training (OSUT) complexes and for selected Initial Entry Training (IET) complexes.

Aside from Building 8605, the proposed new building construction sites are located in an area that has most recently been used as a portion of the now closed golf course and in a land use zone identified as Professional/Institutional. This land use provides for non-tactical organizations including military schools, headquarters, major commands, and non-industrial Research, Development, Test, and Evaluation. In the past a portion of this area has been used as a mortar test firing range. The potential for unexploded ordnance (UXO) and munitions within this area has been investigated (NSA, 2010) and only practice rounds have been found within the area. As such, the potential of UXO being present is low.

The DoD recognizes its responsibility to protect the public from the potential hazards associated with military operations, both past and present. This is particularly true with regard to DoD's use of military munitions in training and testing. To address munitions-related issues and the

potential hazards munitions pose on property that the DoD once used, DoD developed the Military Munitions Response Program (MMRP). The MMRP addresses non-operational range lands that are suspected or known to contain UXO, discarded military munitions (DMM) or munitions constituent (MC) contamination.

Both Alternative A and Alternative B, with the exception of Building 8605, are within East Campus and are located within a MMRP site: the former Mortar Range Munitions Response Area (MRA). The MRA is made up of the Training Area and the Mortar Area Munitions Response Sites (MRSs). Based on previous investigations, the entire MRA is considered a 'low risk' for munitions of explosive concern (MEC) and material potentially presenting an explosive hazard (MPPEH). A golf course existed on the MRA since approximately 1956 before recently being developed as East Campus.

According to the September 2012 Final Record of Decision, the selected remedial action for the MRA is Land Use Controls (LUCs) with Long Term Management (LTM). Existing LUCs at the MRA will be maintained and enhanced including requirements to obtain dig permits from DPW for any intrusive activity; Master Plan Regulations; and the Fort Meade GIS Database. UXO Construction Support is required for all intrusive construction projects, and UXO avoidance procedures are required for any other intrusive activity.

Additionally, an education program will be initiated for potential future site workers, users, and emergency responders at the MRA. Residential land use at the MRA is prohibited. Signage (warning signs), specific to both the Mortar Area MRS and the Training Area MRS, describing restrictions on site use at key locations of the site will be installed. Annual inspections of each MRS will be performed to establish that all on-site LUCs are in good condition; to confirm that the land use of the site had not changed; and, through an instrument-assisted surface sweep, that no MEC/MPPEH or munitions debris had been exposed through erosion or frost heave. The LUCs and LTM will be incorporated into CERCLA required procedures in the forthcoming Remedial Design.

4.1.2 Fort Gordon

Fort Gordon encompasses approximately 55,600 acres in east central Georgia. The majority of the installation and the entire cantonment area lie within Richmond County, with a small portion of the training area in Jefferson, Columbia, and McDuffie counties. Fort Gordon is located approximately 145 miles east of Atlanta, Georgia, and approximately 115 miles northwest of Savannah, Georgia. Augusta, Georgia, is the nearest urban center and is located approximately 9 miles northeast of the installation.

4.1.2.1 Regional Land Use at Fort Gordon

Land use within one mile of Fort Gordon varies from semi-urban to rural. The area east of Fort Gordon is developed and makes up the greater Augusta area. The major land use east of the installation along U.S. 1 and Gordon Highway is commercial. Further west of Augusta on the north and south sides of the installation, land use becomes a mixture of rural residential, commercial, and undeveloped land. Land use south of the installation along U.S. Highway 1 to

the west of Gate 5 in western Richmond County is agricultural (USAGFG, 2008). In Columbia County, land use closest to Fort Gordon is mixed, with single-family residential and some mobile home development. Some multifamily development is also scattered throughout the area. Suburban areas are concentrated in the Evans-Martinez area and in the city of Grovetown (USAGFG, 2008). Land use adjacent to Fort Gordon in Jefferson and McDuffie counties is agricultural. More than 88 percent of Jefferson County's land is devoted to agriculture and forestry (USAGFG, 2008).

4.1.2.2 Installation Land Use at Fort Gordon

Fort Gordon encompasses approximately 55,600 acres. Approximately 50,000 acres are used for training missions: 49 training areas (TAs) occupy approximately 37,000 acres and two restricted impact areas (small arms and artillery) occupy approximately 13,000 acres (Figure 4-2, Appendix A). The remaining 5,590 acres are occupied by cantonment areas which include military housing, administrative offices, community facilities, medical facilities, industrial facilities, maintenance facilities, supply/storage facilities, lakes and ponds, recreational areas, and forested areas.

Land use on Fort Gordon is classified as improved, semi-improved, and unimproved. The Inventory of Installation Land Use at Fort Gordon classifies 4.3 percent of the installation as improved, 1.7 percent as semi-improved, and 94.2 percent as unimproved. Improved grounds are those where intensive development and maintenance measures are performed (e.g., cantonment, housing areas, golf courses, and cemeteries). Semi-improved grounds are those that undergo periodic maintenance for operational and aesthetic reasons (e.g., antenna facilities, rifle ranges, and ammunition storage ranges). Unimproved grounds are those that are usually not mowed more than once a year (e.g., forest lands, grazing lands, and weapons ranges) (USAGFG, 2008).

The installation operates 14 live fire ranges, one dud impact area, one demolition pit, one indoor shoot house, one convoy live fire familiarization course, two military operations on urban terrain (MOUT) site/building clearings and one nuclear, biological, and chemical (NBC) chamber. Training primarily consists of advanced individual signal training and unit employment of tactical communications/electronics operations. Additionally, artillery demolition, aerial gunnery load master drop zone, and airborne troop training are conducted on Fort Gordon.

4.1.2.3 Site Specific Land Use at Fort Gordon Project Areas

The alternatives located at Fort Gordon are within the cantonment area. The cantonment area includes administrative areas, barracks, housing, classroom buildings, and fixed field training sites that augment the classroom instruction.

4.2 VISUAL RESOURCES AND AESTHETICS

Visual resources are the natural and human-made features on the installation landscape. They can include cultural and historic landmarks, landforms of particular beauty or significance, water surfaces, or vegetation. Together, these features, called the "viewshed," form the overall impression that a viewer receives of the area or its landscape.

4.2.1 Fort Meade

The topography of Fort Meade is mostly level to gently rolling, and generally slopes from north to south. Elevations range between 97 feet above mean sea level (MSL) in the southwestern corner of the installation at the Little Patuxent River to 307 feet above MSL near the 1st Army Radio Station (Building 2844) behind the former golf course (NSA, 2010).

4.2.1.1 Site Specific Visual Resources and Aesthetics at Fort Meade Project Areas

Portions of areas where the facilities could be located have been identified for development in the past. Much of the area has been used as a golf course and as such has remained an open space. The golf course was closed permanently in 2012 for development of the East Campus as described in the 2010 East Campus EIS.

4.2.2 Fort Gordon

Fort Gordon's topography ranges from the gentle undulating sand hills of the south and middle sections, to areas of steep slopes and near-bluffs adjacent to some of the streams, which are characteristically small and bordered by heavy hardwood swamp areas. The elevation of Fort Gordon ranges from 221 to 561 feet above MSL, with the majority of the installation having an elevation between 380 and 490 feet above MSL (USAGFG, 2008). The cantonment area is built on relatively level ground with low-lying areas scattered throughout. Buildings vary in size and style, having been constructed from the 1940s to the present. Open grassy areas separate the buildings, along with some ornamental trees and landscaping around the structures (USAGFG, 2008).

4.2.2.1 Site Specific Visual Resources and Aesthetics at Fort Gordon Project Areas

The areas where the facilities could be located are mainly areas that have been developed in the past. Viewshed and aesthetics of the cantonment area are those consistent with office buildings and landscaping.

4.3 AIR QUALITY

Air quality is the ambient air concentration of specific criteria pollutants determined by the USEPA to be of concern to the health and welfare of the public. These criteria pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), particulate matter less than 10 microns in diameter (PM_{10}), and lead. The federal government has established ambient air quality standards (National Ambient Air Quality Standards [NAAQS]) for several criteria pollutants (USEPA, 2012a). These standards identify the maximum allowable concentrations of criteria pollutants that regulatory agencies consider safe, with an additional adequate margin of safety to protect human health and welfare.

4.3.1 Emissions Methodology

Air quality within a region is a function of the type and amount of pollutants emitted, size, and topography of the air basin, and prevailing meteorological conditions. Criteria pollutants affecting air quality in a given region can come from either stationary or mobile sources. A smokestack typifies a stationary emission source. Mobile sources of emissions include emissions from cars and aircraft. Emissions are "primary" or "secondary" pollutants. Primary pollutants are those emitted directly into the atmosphere such as CO, SO_2, $PM_{2.5}$, and PM_{10}. Secondary pollutants are those formed through chemical reactions in the atmosphere such as O_3 and NO_2. Volatile organic compounds (VOCs) (also referred to as hydrocarbons or reactive organic gases [ROGs]) are precursors to the production of O_3. SO_2 and NO_2 are reported as oxides of sulfur (SO_x) and oxides of nitrogen (NO_x), respectively. SO_2 and NO_2 constitute the majority of their respective oxides.

Regulatory agencies designate areas that violate ambient air quality standards as nonattainment areas. Nonattainment designations for O_3, CO, $PM_{2.5,}$ and PM_{10} include subcategories indicating the severity of the air quality problem (e.g., the classifications range from moderate to serious for CO and PM_{10}, and from marginal to severe for O_3). Areas that comply with federal air quality standards are attainment areas. Areas that are redesignated from nonattainment to attainment status become maintenance areas. Areas that lack monitoring data to demonstrate attainment or nonattainment status are unclassified and considered to be in attainment for regulatory purposes.

4.3.2 Greenhouse Gas Emissions

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere by absorbing infrared radiation. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHG emissions from human activities. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The main source of GHGs from human activities is the combustion of fossil fuels, including crude oil and coal. Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydro fluorocarbons and per fluorocarbons) and sulfur hexafluoride.

Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has a value of one. For example, CH_4 has a GWP of 21, which means that it has a global warming effect 21 times greater than CO_2 on an equal-mass basis (Intergovernmental Panel on Climate Change, 2007). To simplify GHG analyses, total GHG emissions from a source are often expressed as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. While CH_4 and N_2O have much higher GWPs than CO_2, CO_2 is emitted in such higher quantities that it is the overwhelming contributor to CO_2e from both natural processes and human activities.

Federal agencies on a national scale address emissions of GHGs by reporting and meeting reductions mandated in federal laws, EOs, and agency policies. The most recent of these are EOs

13423 *Strengthening Federal Environmental, Energy, and Transportation Management* and 13514 *Federal Leadership in Environmental, Energy, and Economic Performance,* and the USEPA Final Mandatory Reporting of Greenhouse Gases Rule. Several states have promulgated laws as a means of reducing statewide levels of GHG emissions.

In an effort to reduce energy consumption, reduce dependence on petroleum, and increase the use of renewable energy resources in accordance with the goals set by EOs and the Energy Policy Act of 2005, the DoD has implemented a number of renewable energy projects.

On 18 February 2010, the CEQ proposed for the first time draft guidance on how federal agencies should evaluate the effects of climate change and GHG emissions for NEPA documentation (CEQ, 2010). Specifically, if a proposed action emits 25,000 metric tons or more of CO_{2e} on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. The CEQ does not propose this reference point as an indicator of a level of GHG emissions that may significantly affect the quality of the human environment, but notes that it serves as a minimum standard for reporting emissions under the Clean Air Act (CAA). In the analysis of the direct effects of a proposed action, the CEQ proposes that it would be appropriate to: (1) quantify cumulative emissions over the life of the project; (2) discuss measures to reduce GHG emissions, including consideration of reasonable alternatives; and (3) qualitatively discuss the link between such GHG emissions and climate change. However, the CEQ states that it is not currently useful for NEPA analyses to attempt to link specific climatic changes or environmental impacts to proposed GHG emissions, as such direct linkage is difficult to isolate and to understand.

4.3.3 Federal Requirements

Section 176(c) of the 1990 CAA Amendments contains the General Conformity Rule (40 CFR §§ 51.850-860 and 40 CFR §§ 93.150-160). The General Conformity Rule (updated 24 March 2010) requires any federal agency responsible for an action in a nonattainment or maintenance area to determine that the action conforms to the applicable State Implementation Plan (SIP) (USEPA, 2010). Emissions of attainment pollutants are exempt from conformity analysis. Actions would conform to a SIP if their annual direct and indirect emissions would remain less than the applicable *de minimis* thresholds. Formal conformity determinations are required for any actions that would exceed these thresholds.

4.3.4 Fort Meade

The ROI for the Proposed Action at Fort Meade, Maryland, is the Metropolitan Baltimore Intrastate Air Quality Control Region (AQCR), which includes Fort Meade in Anne Arundel County (40 CFR Part 81.28). Anne Arundel County is classified as a nonattainment area for $PM_{2.5}$ and O_3 (VOCs and NO_X are precursors to the formation of O_3). This area attains the NAAQS standards for all other criteria pollutants. The general conformity requirements and thresholds only apply to criteria pollutants in the ROI which are in nonattainment or maintenance of the NAAQS. Therefore, *de minimi*s levels for the project area are 100 tons per year for $PM_{2.5}$ and NO_X. The VOC *de minimis* level is 50 tons per year as established for nonattainment areas located in an O_3 transport area. New Source Review (NSR) thresholds are 250 tons per year of

any pollutant. For planning purposes, these thresholds are used in the absence of applicable *de minimis* thresholds.

4.3.5 Fort Gordon

The ROI for the Proposed Action at Fort Gordon, Georgia, is the Augusta (Georgia) Aiken (South Carolina) Interstate AQCR, which includes Fort Gordon (40 CFR Part 81.114). This area attains the NAAQS standards for all criteria pollutants. The general conformity requirements and thresholds only apply to criteria pollutants in the ROI which are in nonattainment or maintenance of the NAAQS. Therefore, *de minimi*s levels for the project area not applicable. NSR thresholds are 250 tons per year of any pollutant. For planning purposes, these thresholds are used in the absence of applicable *de minimis* thresholds.

4.4 NOISE

Noise is traditionally defined as unwanted sound that interferes with normal activities in a way that reduces the quality of the environment. Magnitudes of sound, whether wanted or unwanted, are usually described by sound pressure. There are two primary types of sources of sound that generate noise: stationary and transient. Sounds produced by these sources can be intermittent or continuous. A stationary source is usually associated with a specific land use or site, such as construction activities or the operation of generators. Transient sound sources, such as vehicles and aircraft, move through the area. The human auditory system is sensitive to fluctuations in air pressure above and below the barometric static pressure. The loudness of sound as heard by the human ear is measured on the A-weighted decibel (dBA) scale. Examples can be found in Table 4-2.

The Noise Control Act (NCA) of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The Act also serves to (1) establish a means for effective coordination of Federal research and activities in noise control; (2) authorize the establishment of Federal noise emission standards for products distributed in commerce; and (3) provide information to the public respecting the noise emission and noise reduction characteristics of such products. The Act provided the framework for states and local authorities to establish noise regulations.

According to the DoD, Federal Aviation Administration, and U.S. Department of Housing and Urban Development criteria, residential units and other noise-sensitive land uses are “clearly unacceptable” in areas where the noise exposure exceeds the day-night level (DNL) of 75 dB, “normally unacceptable” in regions exposed to noise between the DNL of 65 to 75 dB, and “normally acceptable” in areas exposed to noise where the DNL is 65 dB or less. The Federal Interagency Committee on Noise developed land use compatibility guidelines for noise in terms of DNL. For outdoor activities, USEPA recommends DNL of 55 dB as the sound level below which there is no reason to suspect that the general population will be at risk from any of the effects of noise.

Table 4-2: Common Noise Levels		
Source	**Decibel Level**	**Exposure Concern**
Soft Whisper	30	Normal safe levels.
Quiet Office	40	
Average Home	50	
Conversational Speech	65	
Highway Traffic	75	May affect hearing in some individuals depending. on sensitivity, exposure length, etc.
Noisy Restaurant	80	
Average Factory	80-90	
Pneumatic Drill	100	
Automobile Horn	120	
Jet Plane	140	Above 140 decibel may cause pain
Gunshot Blast	140	

Source: USEPA, 1986

4.4.1 Fort Meade

Noise elements in and around the proposed project areas have noise conditions that are consistent with business and administrative activities. Personal and commercial vehicles accessing the area, along with lawn maintenance and pedestrian activities would be part of the normal noise environment in the area.

4.4.2 Fort Gordon

The most common sources of noise at Fort Gordon are small arms firing and vehicles; however, the installation also conducts artillery firing, demolition, and aerial gunnery. Environmental noise contours greater than DNL of 65 dBA from activities at Fort Gordon do not extend beyond Fort Gordon's boundary (USAGFG, 2000).

Noise elements in and around the proposed project areas have noise conditions that are consistent with business and administrative activities. Personal and commercial vehicles accessing the area, along with lawn maintenance and pedestrian activities would be part of the noise environment in the area.

4.5 GEOLOGY AND SOILS

4.5.1 Fort Meade

Fort Meade lies in the Atlantic Coastal Plain Physiographic Province (Maryland Geological Survey, 2005). It is underlain by unconsolidated sediments that lie over a crystalline substrate consisting of gabbro, diorite, and other igneous and metamorphic rocks (Mach and Achmad 1986). The series of thick, unconsolidated sediments are subdivided, from youngest to oldest, into the Potomac Group, Magothy Formation, and Patuxent River terraces and associated alluvium. Within the Potomac group, the Arundel Clay, Patuxent Aquifer, and Lower Patapsco Aquifer geological units underlie Fort Meade. The Arundel Clay has low vertical hydraulic conductivity and is the confining layer between the two aquifers under Fort Meade. Above the

Lower Potomac Aquifer is an unnamed confining layer composed of tough variegated clay that also exhibits low vertical hydraulic conductivity, although some layers are permeable. Alluvium underlies all of Fort Meade's streams and wetlands, and consists of interbedded sand, silt, and clay with small gravel inclusions (Mach and Achmad, 1986).

The most prevalent soils on Fort Meade are part of the Evesboro and Galestown complexes, covering approximately 42 percent of the Post area (NRCS, 2012). Evesboro soil is a very deep, excessively drained sandy loam soil found on uplands. Other soil series occurring on Fort Meade include the Bibb-Iuka, Downer, Hambrook, Hammonton, Ingleside, Keyport, Muirkirk, Patapsco, Runclint, Sassafras, Udorthents, and Woodstown. Bibb and Evesboro soils are Entisols, which are recent mineral soils that have been only slightly modified from the geologic material in which they formed. All the other soil series are Ultisols, which are excessively weathered soils with well-developed horizons and argillic B horizons.

"Urban land" and "Cut and fill land" were also identified as map units in the soil survey (NRCS, 2012). Urban land includes areas in the vicinity of pavements and buildings. Cut and fill land includes miscellaneous soil types in severely disturbed areas to the extent that identification by soil series cannot be determined. Both Urban and Cut and fill lands are common in developed sites that have been severely modified by earth-moving equipment (NSA, 2010).

Of the 39 distinct soil mapping units on Fort Meade, the Muirkirk Loamy Sand, Keyport Sandy Loam, and Evesboro and Galestown Loamy Sand units are classified as highly erodible lands (HEL), as defined by The Anne Arundel County Code, § 2-101 (22E). Several soil mapping units have severe limitations to development due to slope and/or wetness, including the Bibb-Iuka Silt Loams, Downer Loamy Sand, Downer Sandy Loam, Evesboro and Galestown Loamy Sands, Evesboro-Urban Complex, Fallsington Sandy Loam, Ingleside Sandy Loam, Muirkirk Loamy Sand, Muirkirk-Urban Complex, Sassafras Sandy Loam, Sassafras-Urban Complex, and Udorthents (USACE, 2007).

4.5.1.1 Site Specific Conditions at Fort Meade

The five soils mapped within the proposed project sites belong primarily to the Patapsco-Fort Mott Complex and the Evesboro Complex (NRCS, 2012). Specifically, the soils underlying the sites are: Evesboro and Galestown soils, Patapsco-Evesboro-Fort Mott soils, Sassafras and Croom soils, Udorthents, and Patapsco-Fort Mott-Urban land complex. Within the possible project sites, soils have been previously disturbed through development in and around these areas.

4.5.2 Fort Gordon

Fort Gordon is located near Augusta, Georgia, in the Southeastern Coastal Plain physiographic province near the Fall Line transition with the underlying bedrock of the Piedmont physiographic province. In this zone of Fall Line transition, the topography ranges from the gentle undulating sand hills of the south and middle sections to areas of steep slopes and near-bluffs adjacent to some of the streams, which are characteristically small and bordered by heavy hardwood swamp

areas. The elevation of Fort Gordon ranges from 221 feet to 561 feet above MSL, and the majority of the land area (35,852 acres) is between 378 feet and 489 feet above MSL.

Twenty-six soil classes have been identified on the installation; these soils are further classified by slope and content detail. These classifications include such common soil series as Ailey, Bibb, Dothan, Lakeland, Lucy, Orangeburg, Osier, Troup, and Vaucluse. These and other soil series can be grouped into associations based on similarities of soils, relief, and drainage (Frost, 1981; Paulk, 1981). Creek drainages are characterized by well-drained soils such as Troup-Vaucluse-Ailey associations. Low-lying, poorly drained soils within drainages typically consist of Bibb-Osier associations. These soils are generally dominated by bottomland hardwood communities. Dry, upland habitats are characterized by Troup and Ailey sand series, and are generally dominated by pine/scrub oak communities.

Twelve of the soil types found on Fort Gordon are considered Prime Farmland under the Farmland Protection Policy Act (FPPA) of 1980 and 1995 (Public Law 97-98, 7 USC 4201). According to 7 USC 4201(c)(1)(A), Prime Farmland is defined as "land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oil, seed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, labor, and without intolerable soil erosion." Additionally, six of the soil types found on Fort Gordon are considered Farmland of Statewide Importance. Farmland of Statewide Importance is defined as "land that is important for the production of food, feed, fiber, forage, and oilseed crops. It economically produces good yields if the soils are drained or are drained and protected against flooding, if erosion control practices are installed, or if additional water is applied to overcome droughty conditions". Soils considered either Prime Farmland or Farmland of Statewide Importance are protected under the FPPA. Approximately 5,091 and 2,652 acres of Fort Gordon are considered Prime Farmland or Farmland of Statewide Importance, respectively.

4.5.2.1 Site Specific Conditions at Fort Gordon

Within the proposed project areas, the soils are mapped mostly as Troup-Urban land complex with some Lakeland sand and Troup fine sand (NRCS, 2012). No Prime Farmland or Farmland of Statewide Importance soils are located within the proposed project sites at Fort Gordon.

4.6 WATER RESOURCES

4.6.1 Fort Meade

4.6.1.1 Groundwater

The Patuxent, Upper Patapsco, and Lower Patapsco aquifers lie under the installation (Michael Baker Jr. Inc., 2007). The Lower Patapsco and Patuxent aquifers are separated by the Arundel Clay formation. The Patuxent Aquifer consists of lenticular interfingering sands, silts, and clays capable of yielding large quantities of water. This aquifer is 200 to 400 feet thick and is the deepest of the three aquifers beneath Fort Meade. The Upper Patapsco Aquifer is unconfined and is considered the water table aquifer.

American Water owns and operates the potable water system that serves Fort Meade. American Water obtains potable water from six wells under a Water Appropriation and Use permit from the MDE: two wells located north of Route 32 and four wells located south of Route 32 (Atkins, 2011). The wells draw from the Patuxent Aquifer and range in depth from 500 to 800 feet below ground surface. Individual wells range in capacity from 720 gallons per minute (GPM) to 1,000 GPM (USACE, 2007). Total capacity of the wells is 5,000 GPM or 2.75 million gallons per day (MGD). The Water Appropriation and Use Permit (Permit No. AA1969G021[7]) allows an average withdrawal of approximately 3.3 MGD from these wells.

4.6.1.2 Surface Water

Fort Meade is located within the greater Chesapeake Bay watershed. The Chesapeake Bay is North America's largest and most biologically diverse estuary, home to more than 3,600 species of plants, fish, and animals (Chesapeake Bay Project, 2000). To protect and restore this valuable ecosystem, Maryland joined a consortium of State and Federal agencies to establish the Chesapeake Bay Program partnership. The Army's conservation mission supports the Chesapeake Bay Programs, and Fort Meade is implementing Best Management Practices (BMPs) that support the guidelines established by the partnership.

The installation lies almost entirely within the Little Patuxent River watershed (MD watershed code number 02131105), of the Patuxent River Basin. A very small area in the northeast corner of the Post drains to the Severn River. The Patuxent River drains an area of 932 square miles before emptying into the Chesapeake Bay on the western shore, and is designated a "scenic river" under the Maryland Scenic and Wild Rivers Act of 1968. The Act mandates the preservation and protection of natural values associated with each designated river, and State and local governments are required to take whatever actions necessary to protect and enhance the qualities of the designated rivers. The Little Patuxent River is currently listed on Maryland's list of impaired waters under Section 303(d) of the CWA. Impairments include sediments, metals (cadmium) and biological. As Total Maximum Daily Loads (TMDLs) for these impairments are developed, facilities could be impacted by requirements for reducing loads in the watershed.

Fort Meade contains approximately 7.2 miles of perennial streams as well as other intermittent and ephemeral channels. The most significant water resources on Fort Meade are Franklin Branch and Midway Branch as well as Burba Lake (Figure 4-3, Appendix A). The majority of the installation is drained by Midway Branch and its primary tributary, the Franklin Branch. Both are tributaries to the Little Patuxent River. Midway Branch flows for the entire length of Fort Meade from the northern end to the southern end, then confluences with the Little Patuxent River off-site. Franklin Branch also flows on Post from the northern end through Burba Lake, an 8.2 acre man-made lake, and confluences with Midway Branch.

Streams that are proximate to project areas would be identified and field delineated in accordance with the USACE 1987 Wetland Delineation Manual and the Atlantic and Coastal Plain Supplement (November 2010); and classified using the Cowardin classification system. Additionally, riparian buffers were incorporated into the Fort Meade Comprehensive Expansion Management Plan and subsequent Base Realignment and Closure projects to minimize impacts and degradation to waterbodies leading to the Chesapeake Bay. Fort Meade

would maintain voluntary 100 foot riparian forest buffers along streams and abutting wetlands to the maximum extent practical.

Fort Meade contains wetland resources, the majority of which are concentrated near the Little Patuxent River. Wetland resources are described in Section 4.9 of this EA. There are also several stormwater management features, particularly ponds, spread across Fort Meade.

In May 9, 2012, correspondence (Appendix B), MDE indicated the proposed project areas are located in the Little Patuxent watershed, which is currently listed on Maryland's list of impaired waters under Section 303(d) of CWA. Impairments include sediments, metals (cadmium) and biological. As Total Maximum Daily Loads (TMDLs) for these impairments are developed, facilities could be impacted by requirements for reducing loads in the watershed.

Fort Meade has several acres of wetland resources across the base, the majority of which are concentrated around Midway Branch, Franklin Branch and the unnamed tributaries. There are also several stormwater management features, particularly ponds, spread across Fort Meade. Wetland resources on Fort Meade are described in Section 4.9.1.

4.6.1.3 Stormwater

Stormwater runoff is conveyed to the three primary drainages, with the majority carried by Midway and Franklin Branches. All the natural drainages discharge into the Little Patuxent River. Runoff from developed areas is conveyed through an extensive network of drainpipes and associated drainage structures, supplemented by swales, ditches, other drains, and retention ponds (NSA, 2010). In recent years, Fort Meade has constructed new retention ponds to reduce concentrated flows to the main branch channels and prevent bank overflows and flooding.

In addition, Fort Meade employs a number of stormwater management initiatives, including low impact development, throughout the Installation to manage stormwater. Some examples of these include low impact development, installation of rain gardens, stormwater ponds, and replacing concrete storm drains with grass swales.

Section 438 of the Energy Independence and Security Act of 2007 (EISA) instructs federal agencies to "use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible (METF), the predevelopment hydrology of the property with regard to the temperature, rate," for any project with a footprint that exceeds 5,000 square feet.

In December 2009, the Environmental Protection Agency (EPA) issued the "Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act (EISA)" focusing on a step-by-step framework that will help federal agencies maintain pre-development site hydrology by retaining rainfall on-site through infiltration, evaporation/transpiration, and re-use to the same extent as occurred prior to development. Implementation of Section 438 of the EISA can be achieved through the use of stormwater management practices often referred to as "green infrastructure" or "low impact development" practices which are described in the guidance. The intention of the statute is to

maintain or restore the pre-development site hydrology during the development or redevelopment process. More specifically, this requirement is intended to maintain or restore stream flows such that receiving waters are not negatively impacted by changes in runoff temperature, volumes, durations and rates. Site designers must design, construct, and maintain stormwater management practices to preserve or restore the hydrology of the site during the development or redevelopment process in compliance with Section 438. Site designers have two options to meet this standard: Option 1 provides site designers with a process to design, construct, and maintain stormwater management practices that manage rainfall on-site, and prevent the off-site discharge of stormwater from all rainfall events less than or equal to the 95th percentile rainfall event. Option 2 allows the site designers to design, construct, and maintain stormwater management practices using a site-specific hydrologic analysis to determine pre-development runoff conditions instead of using the estimated volume approach of Option 1. Under Option 2, pre-development hydrology would be determined based on site-specific conditions and local meteorology by using continuous simulation modeling techniques, published data, studies, or other established tools.

Federal agencies have many alternatives for meeting the requirements of Section 438 including green infrastructure or low impact development management approaches and technologies that enhance or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration, and use. Federal agencies can also use footprint-reduction practices (e.g., building up instead of out) to reduce their stormwater impact. Some of the practices that agencies can use to meet Section 438, include but are not limited to the following practices:

- **Rain gardens, bioretention, and infiltration planters** promote infiltration of stormwater, and allow for evapotranspiration to occur.

- **Porous pavements** allow stormwater to infiltrate where traditional impervious pavements would otherwise be used

- **Vegetated swales and bioswales** treat stormwater runoff as it flows through these channels.

- **Green roofs** absorb and store rainfall, thereby reducing runoff volume. Green roofs also help reduce energy costs.

- **Trees and tree boxes** help break up the landscape of impervious surfaces and absorb stormwater runoff.

- **Pocket wetlands** are small wetland systems designed to treat stormwater.

- **Reforestation/revegetation** practices help restore areas to more natural vegetative cover, which promote infiltration.

- **Protection and enhancement of riparian buffers and floodplains** ensures that streams are protected and shaded, improving water quality.

- **Rainwater harvesting** (e.g., irrigation, air conditioning cooling water, non-potable indoor uses such as watering plants) uses cisterns and rain barrels to capture and use stormwater.

Provisions of Code of Maryland Regulations (COMAR) 26.17.02.01 (Maryland Department of the Environment, Water Management, Purpose and Scope) require that all jurisdictions in Maryland implement a stormwater management program to control the quality and quantity of stormwater runoff resulting from new development. The regulations state:

A. The primary goals of the State and local stormwater management programs are to maintain after development, as nearly as possible, the predevelopment runoff characteristics, and to reduce stream channel erosion, pollution, siltation and sedimentation, and local flooding by implementing environmental site design to the maximum extent practicable and using appropriate structural best management practices only when necessary.

B. These regulations for stormwater management apply to the development or redevelopment of land for residential, commercial, industrial, or institutional use, but do not apply to agricultural land management practices. These provisions specify the minimum content of county and municipal ordinances, responsibilities of the Administration regarding the review of the county and municipal stormwater management programs, and approval of State-constructed projects for stormwater management by the Department of the Environment.

C. These provisions apply to all new development and redevelopment projects that do not have final approval for erosion and sediment control and stormwater management plans by May 4, 2010.

COMAR Title 26.17.02.05 (When Stormwater Management is required) exempts any developments that do not disturb over 5,000 SF of land area or 100 CY of earth. Conversely, developments disturbing over 5,000 SF of land or 100 CY of earth require stormwater management. The Stormwater Management Plan (SWP) requirements are outlined in COMAR 26.17.02.09.

Environmental Site Design requires a developer to demonstrate that all reasonable opportunities for meeting stormwater requirements using ESD have been exhausted by using natural areas and landscape features to manage runoff from impervious surfaces and that structural BMPs have been used only where absolutely necessary. The 2010 Stormwater Management Guidelines for State and Federal Projects will be followed for work at Fort Meade.

Furthermore, Fort Meade maintains a Stormwater Pollution Prevention Plan (SWPPP) that provides BMPs for controlling and preventing siltation and other contaminants associated with construction and industrial activity sites from reaching area surface waters.

4.6.1.4 Site Specific Conditions at Fort Meade

The potential project sites at Fort Meade are located to the west of Midway Branch and east of an unnamed perennial tributary to the Little Patuxent River. The nearest potential project sites are located approximately 500 feet from these waters.

For Alternative A, located at the northwest corner of Mapes Road and Taylor Avenue, stormwater flows through a network of open ditches and through storm sewer lines to an unnamed perennial tributary to the Little Patuxent River (to the southwest) and to Midway Branch (to the east).

For Alternative B, East Campus stormwater flows through a network of open ditches and through storm sewer lines to Midway Branch (to the east) and to unnamed perennial and intermittent tributaries to the Little Patuxent River (to the west. Stormwater from Building 8605 flows through storm sewer lines to an unnamed perennial tributary to the Little Patuxent River (to the west) and through a network of storm sewer lines and open ditches to wetlands that drain to the Little Patuxent River.

4.6.2 Fort Gordon

4.6.2.1 Groundwater

Fort Gordon is located in the Coastal Plain hydrogeologic province of Georgia, whose principal groundwater source is the Southeastern Coastal Plain aquifer system. This aquifer is composed of interbedded sand and clay of Cretaceous age and locally includes sand and clay of early Tertiary age. The Dublin–Midville aquifer system consists of two aquifers, separated by a confining unit. The sediments of the Upper Cretaceous age correlate to the Lower Dublin and Upper and Lower Midville aquifers, undifferentiated. The top of this aquifer occurs at approximately 340 feet above MSL. The overlying Huber Formation correlates to the Lower Dublin confining unit, with the top of the unit occurring at approximately 380 feet above MSL. Depth to groundwater varies from approximately 56 feet to 0 feet below ground surface at seeps discharging to surface water along floodplains and creeks. Natural discharge from the aquifer is into the Oconee, Savannah, and Ocmulgee Rivers. Fort Gordon lies within the recharge area and the aquifer is relatively thin; therefore, there is limited storage capacity and only moderate supplies of potable water are available within the installation. Typical yields in this area range from 29,000 to 72,000 gallons per day (GPD). Wells within the aquifer supply potable water to the range, training, and recreation areas. Because of the high content of dissolved carbon dioxide, pH values can range from 3.8 to 7.4, with a mean of 5.8. Potable water to the cantonment area is provided by the City of Augusta through the public water supply system.

4.6.2.2 Surface Water

Surface streams on Fort Gordon generally flow south and east, towards the Savannah River (Figure 4-4, Appendix A). Five major stream systems drain portions of Fort Gordon. From north to south, they are Butler Creek, Spirit Creek, Sandy Run Creek, Boggy Gut Creek, and Brier

Creek. There are 89 streams on Post associated with these five major drainages (USAGFG, 2008).

Streams that have no tributaries flowing into them are called first-order streams. Streams that receive only first-order streams are called second-order streams. When two second-order streams meet, the combined flow becomes a third-order stream, and so on. First through third order streams are also called headwater streams and constitute any waterways in the upper reaches of the watershed. Going up in size and strength, streams that are classified as fourth through sixth order are medium streams while anything larger (up to 12th order) is considered a river. Approximately two-thirds (63 streams) of the streams on Fort Gordon are very small first-order streams, with a total length of 46 miles. Smaller numbers of second-order streams (17 streams) and third-order streams (8 streams) are present, totaling 36 miles. Brier Creek is unique in that it enters Fort Gordon as a fifth-order stream (USAGFG, 2008). Spirit Creek's headwaters are in the northwest part of Fort Gordon. From its headwaters, Spirit Creek flows 24 miles to the southeast, entering the Savannah River two miles downstream of Augusta's Bush Field. Spirit Creek drains approximately 19,200 acres of Fort Gordon (USAGFG, 2008). The other major stream systems drain smaller areas of the installation, from 3,840 acres (Butler Creek) to 13,440 acres (Sandy Run).

Georgia has established 5.0 milligrams per liter (mg/L) (daily average) as the state water quality standard for dissolved oxygen in waters used for fishing and contact recreation. Hoover and Kilgore (1999) found that dissolved oxygen levels in Spirit Creek, Sandy Run Creek, Boggy Gut Creek, and Brier Creek were high enough to support a diverse assemblage of aquatic organisms. Spirit Creek dissolved oxygen levels were the highest measured, ranging from 6.8 to 10.1 mg/L (Hoover and Kilgore, 1999).

The U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) conducted an investigation in 2006 and 2007 to determine if there had been releases of munitions-related contaminants to surface water and/or groundwater that posed a threat to human health of the environment. Arsenic and copper concentrations in Spirit Creek water slightly exceeded Georgia Water Quality Standards, as did silver concentrations in Spirit Creek sediment. However, benthic macroinvertebrate communities showed no significant impairment, suggesting actual potential of risk to aquatic receptors was low (CHPPM, 2008).

GADNR's Environmental Protection Division (Georgia EPD) is responsible for establishing and enforcing the State's water quality standards. Every two years, in compliance with CWA sections 303(d) and 305(b), Georgia EPD publishes "Water Quality in Georgia," a comprehensive assessment of water quality in the state. Only one stream on Fort Gordon, a short stretch of Headstall Creek that flows into Brier Creek in the southwestern corner of the installation, is listed on Georgia EPD's 2008 303(d) list of impaired waters (GADNR, 2008).

In the course of preparing a Comprehensive Wildlife Conservation Strategy that was implemented in 2005, GADNR's Wildlife Resources Division identified "High Priority Waters," which are streams and river reaches deemed significant and worthy of preservation based primarily on the uniqueness and diversity of their aquatic communities (GADNR, Undated). As part of the same planning effort, GADNR delineated watersheds that contained high priority

streams or tributaries of these streams and designated them "High Priority Watersheds." GADNR works with private, corporate, and government land owners to protect and preserve these valuable streams and watersheds. The sections of Sandy Run Creek, Boggy Gut, and Brier Creek that flow through the western half of the Fort Gordon reservation have all been designated High Priority Waters (GADNR, Undated). The watersheds associated with these stream reaches have been designated High Priority Watersheds. Spirit Creek, Butler Creek, and their watersheds have not been designated High Priority, however, reflecting their proximity to the developed portion of Fort Gordon and generally less pristine character.

In addition to the 89 streams on Fort Gordon, there are 30 ponds and reservoirs scattered across the Installation with a total surface area of 436 acres (USAGFG, 2008). Most are less than 20 acres in area. The largest impoundments are Lower Leitner Pond (25.3 acres), Leitner Pond (28.5 acres), Gordon Lake (37.3 acres), and Butler Reservoir (81.9 acres) (USAGFG, 2008). Of these 30 impoundments, 27 are managed for recreational fishing. Although water quality of these impoundments is not systematically monitored, the presence/absence of nuisance aquatic plants (both algae and macrophytes) is monitored, and chemical controls are applied where appropriate. Grass carp have also been stocked in several Fort Gordon reservoirs to control nuisance aquatic vegetation.

4.6.2.3 Stormwater

Fort Gordon maintains a SWPPP that provides drainage descriptions and BMPs for stormwater pollution prevention consistent with the National Pollutant Discharge Elimination System (NPDES) requirements found in 40 CFR 126.26.

The stormwater drainage system at Fort Gordon is a series of pipes and paved and channeled natural drainage ditches. New low-impact development regulations require Fort Gordon to design projects to minimize the effects on stormwater drainage systems. Fort Gordon's environmental staff maintains protective buffers around wetlands to improve water quality and minimize impacts to wetlands and stream channels from stormwater discharge from impervious surfaces such as runways and roads.

4.6.2.4 Site Specific Conditions at Fort Gordon

McCoys Creek, Marcum Branch, Riley Branch, Spirit Creek, and Belair Branch flow through and near the developed portion of Fort Gordon. However, the streams are located over 1,000 feet from the nearest proposed construction action. Alternative C, the 16-acre site southwest of the intersection of 110th Avenue and 15th Street, lies within 200 feet of a perennial tributary to Spirit Creek.

Within the cantonment area, the stormwater system consists mainly of catch basins and pipes:

- For Alternative C, the 16-acre site southwest of the intersection of 110th Avenue and 15th Street, stormwater flows through a network of open ditches and storm sewer lines that flow to two unnamed perennial tributaries to Spirit Creek (to the south).

- For Alternative D, the Back Hall Campus, stormwater flows through a network of open ditches and storm sewer lines that flow to either Belair Branch (to the north) or an unnamed perennial tributary to McCoys Creek (to the south).

- For Alternative E, the Whitelaw Hall addition, stormwater flows through a network of open ditches, catch basins, and storm sewer lines that flow to an unnamed perennial tributary to McCoys Creek (to the southeast).

- For Alternative F, the Kilbourne Street site, stormwater flows through a network of open ditches and storm sewer lines to unnamed perennial tributaries to Riley Branch (to the east).

- For Alternative G, the 19th Street site, stormwater flows through a network of open ditches and storm sewer lines that flow to an unnamed water quality pond.

4.7 FLOODPLAINS

EO 11988, *Floodplain Management*, requires federal agencies to determine whether a proposed action would occur within a floodplain. The determination of whether a proposed action occurs within a floodplain typically involves consultation of appropriate Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), which contain enough general information to determine the relationship of the project area to nearby floodplains. EO 11988 directs federal agencies to avoid floodplains unless the agency determines that there is no practicable alternative to undertaking the action in a floodplain. Where the only practicable alternative is to site in a floodplain, a specific step-by-step process must be followed to comply with EO 11988. This "eight-step" process is detailed in FEMA's, *Further Advice on EO 11988 Floodplain Management*.

A flood zone area is an area that FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's or county's FIRM or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area. Examples of flood zones include the 1-percent-annual-chance flood hazard area (this is also known as a 100-year flood event) and the 0.2-percent-annual-chance flood hazard area (this is also known as a 500-year flood event).

4.7.1 Fort Meade

The U.S. Army Corps of Engineers (USACE) conducted a floodplain study in 2008 to map areas along the streams on Fort Meade. For this investigation, areas with a drainage area of greater than 1-square mile within the Fort Meade boundaries were included in the hydrologic, hydraulic and digital floodplain mapping efforts. This included all of Midway Branch within the Fort Meade boundaries and the majority of Franklin Branch. Locations on Franklin Branch with drainage areas less than 1-square mile were included in this investigation because of the amount of development along this flooding source (USACE, 2008).

Based upon a comparison of the graphical location of the 100-year and 500-year floodplain limits to the existing aerial photography and building layer provided by the Fort Meade GIS

Center, the following eight primary buildings are graphically located in the 100-year and 500-year floodplain:

- Sewage Pump Station on Midway Branch
- Water Well and Pump on Midway Branch
- Exchange Auto Service Center
- Forensic Toxicology Drug Testing Laboratory on Burba Lake
- Storage Building on Burba Park
- Communserve Recreation Center on Burba Lake (500-year only)
- Leonard Wood Pumping Station on Franklin Branch
- Low Lift Pump Station on Little Patuxent River

In addition, the following buildings are shown in the 500-year floodplain for the Little Patuxent River: Multi-media Filter Plant; Effluent Pump Station; Sewer Treatment Plant and Chlorinator Building. The locations of projects with regard to floodplains are shown in Figure 4-3 in Appendix A.

4.7.1.1 Site Specific Conditions at Fort Meade

None of the proposed project sites are located within floodplains.

4.7.2 Fort Gordon

Fort Gordon is mapped on the August-Richmond County (FEMA, 2011), Jefferson County (FEMA, 2010a), and McDuffie County (FEMA, 2010b) FIRMs. Fort Gordon is not mapped on the Columbia County FIRM (FEMA, 2007). Some areas of Fort Gordon are adjacent to surface water bodies within a flood zone area.

4.7.2.1 Site Specific Conditions at Fort Gordon

None of the proposed project sites are located within floodplains.

4.8 COASTAL ZONE

The Coastal Zone Management Act (CZMA) of 1972 (16 United States Code [USC] §1451, et seq., as amended) provides assistance to states, in cooperation with federal and local agencies, for developing land and water use programs in the coastal zone. CZMA policy is implemented through state coastal zone management programs. Federal lands are excluded from the jurisdiction of these state programs. However, activities on federal lands are subject to CZMA federal consistency requirements if the federal activity would affect any land or water or natural resource of the coastal zone, including reasonably foreseeable effects. Specifically, in accordance with Section 307 of the CZMA and 15 CFR 930 subpart C, federal agency activities affecting a land or water use or natural resource of a State's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of the State's coastal management program. According to 15 CFR 930.41, the reviewing state has 60 days from receipt of the Consistency Determination to "concur" or "object". States are not required to concur with a Negative

Determination. However, if a response from the state is not received by the 60th day of submittal (unless a one-time extension was requested), the federal agency may presume state agency concurrence. Additionally, 15 CFR 930.43 provides that should a state object to a Consistency Determination, the state and federal agencies should attempt to resolve their differences. However, if no resolution can be met, the federal agency may proceed if federal law prohibits the agency from being fully consistent or if that federal agency has concluded that its proposed action is fully consistent with the enforceable policies of the management program, though the State agency objects. If a Federal agency decides to proceed with a Federal agency activity that is objected to by a State agency, or to follow an alternative suggested by the State agency, the Federal agency shall notify the State agency of its decision to proceed before the project commences.

4.8.1 Fort Meade

All of Fort Meade is located within the Maryland Coastal Zone Management (CZM) Program. This includes the Chesapeake Bay, into which water from streams and their tributaries on Fort Meade flow. MDE regulates activities that are proposed within the CZM Program through federal consistency requirements. Under these requirements, applicants for federal and state licenses or permits must certify their proposed activity will be conducted in a manner consistent with the State's CZM Program. If a state permit is not required for a project, MDE has the authority to "concur" or "object" to the federal consistency determination.

4.8.1.1 Site Specific Conditions at Fort Meade

Although the potential sites are within the CZM Program, none of the proposed areas are located in areas near wetlands or streams.

4.8.2 Fort Gordon

The Georgia Coastal Management Program and Federal Consistency provisions are applicable in the eleven coastal counties: Effingham, Chatham, Bryan, Liberty, Long, McIntosh, Wayne, Glynn, Brantley, Camden, and Charlton. Fort Gordon does not lie within the boundaries of any of these counties.

4.9 BIOLOGICAL RESOURCES

Biological resources include native or naturalized plants and animals and the habitats (i.e., wetlands, forests, and grasslands) in which they live. Protected biological resources include plant and animal species listed by the State of Georgia or the State of Maryland as rare, threatened, or endangered or by the USFWS as threatened or endangered. Special concern species are not afforded the same level of protection, but their presence is taken into consideration by resource agency biologists involved in reviewing projects and permit applications.

Under the Endangered Species Act (ESA), an "endangered species" is defined as any species in danger of extinction throughout all or a significant portion of its range. A "threatened species" is defined as any species likely to become an endangered species in the foreseeable future. The

ESA also provides for recovery plans to be developed describing the steps needed to restore a species population. Critical habitat for federally listed species includes "geographic areas on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection." Critical habitat can include areas not occupied by the species at the time of the listing but that are essential to the conservation of the species. The Sikes Act provides for cooperation by the Department of the Interior and Department of Defense with State agencies in planning, development and maintenance of fish and wildlife resources on military reservations throughout the United States.

The Migratory Bird Treaty Act was implemented in 1918 makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the Act are listed in 50 CFR 10.13.

Wetlands are protected as a subset of the "waters of the United States" under the CWA. The term "waters of the United States" has a broad meaning under the CWA and incorporates deepwater aquatic habitats and special aquatic habitats (including wetlands). Jurisdictional wetlands are those wetlands subject to regulatory protection under Section 404 of the CWA and EO 11990. Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. USACE defines wetlands as "those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR Part 328). Important wetland functions include water quality improvement, groundwater recharge and discharge, pollution mitigation, storm water attenuation and storage, sediment detention, and erosion protection.

4.9.1 Fort Meade

4.9.1.1 Vegetation at Fort Meade

Vegetative cover at Fort Meade consists of forest land, open land/meadow, and developed areas with maintained turf, and street trees. These components constitute Fort Meade's green infrastructure. Maryland's green infrastructure was mapped into hubs and corridors using satellite imagery, road and stream locations, biological data, and other information. Hubs are typically unfragmented forest areas hundreds or thousands of acres in size, and are vital to maintaining the state's ecological health. They provide habitat for native plants and animals, protect water quality and soils, regulate climate, and perform other critical functions. Corridors are linear remnants of natural land such as stream valleys and mountain ridges that allow animals, seeds, and pollen to move from one area to another. They also protect the health of streams and wetlands by maintaining adjacent vegetation. Preserving linkages (corridors) between the remaining blocks of habitat (hubs) will ensure the long- term survival and continued diversity of Maryland's plants, wildlife, and environment. Fort Meade maintains both green infrastructure hubs and corridors.

One third of the Installation, approximately 1,795 acres, is forested. Many native forests were cleared prior to the formation of Fort Meade for agriculture. Larger remaining forested tracts are located towards the perimeter of the Installation. Many of these larger tracts are connected by riparian forest corridors. Larger tracts are around 70 years old, but some stands predate the installation. Development at Fort Meade has resulted in forest fragments as well as recently planted reforestation areas.

Forest cover within Fort Meade consists primarily of mixed pine-hardwood in uplands and bottomland hardwoods in riparian areas. Dominant species in upland areas are a mixture of pitch pine (*Pinus rigida*) and Virginia pine (*Pinus virginiana*) and hardwoods consisting of white oak (*Quercus alba*), southern red oak (*Quercus falcata*), and chestnut oak (*Quercus montana*). Bottomland hardwood species are predominantly red maple (*Acer rubrum*), American sycamore (*Platanus occidentalis*), sweetgum (*Liquidambar styraciflua)*, and American holly *(Ilex opaca).* Due to extensive development at Fort Meade, urban forests are an important biological resource. The installation has actively planted street trees for over 50 years and promoted landscaping with native plant material for over 15 years. Many specimen trees predate the installation and have been preserved throughout multiple phases of Post development. Urban forests provide valuable ecosystem services such as improving water quality, reducing the urban heat island effect, reducing air pollution, providing wildlife habitat, as well as enhancing recreation opportunities and aesthetics.

It is the intent of Fort Meade to maintain a campus like environment and protect forested areas to the maximum extent practical in accordance with the Maryland Forest Conservation Act (FCA) while continuing to sustain and support current and future missions. Fort Meade manages its forest conservation program in accordance with the Maryland Department of Natural Resources (MDNR). The installation supports Army, federal, state, and local laws, regulations, policies, and initiatives to the fullest extent possible (USACE Mobile District, 2007).

Development and construction projects are required to follow the current Fort Meade Forest Conservation Act and Tree Management Policy. In keeping with the FCA standards, Fort Meade requires that the equivalent of 20% of the Project area be forested. All projects 40,000 SF or larger must comply with the Fort Meade policy. Other projects are evaluated on a case by case basis. As per MD FCA, site developments must preserve or establish 20% forest cover, regardless if the site was forested before the construction. Generally, linear utility and road projects are only required to preserve or establish 20% of the forest cover removed for the actual project. Street trees are to be replaced at a minimum of a 1:1 ratio, with preference given to the preservation of specimen trees. Specimen tree replacement ratios will be calculated on a case by case basis. Forestation that cannot feasibly be performed within the project area shall be performed on other designated land areas within Fort Meade.

The Installation participates in the Army's conservation reimbursable and fee collection program for forestry. This program exists to provide ecosystem-level management that supports and enhances the land's ability to support each installation's respective military missionscape, while simultaneously obtaining ecologically responsible results that satisfy all federally mandated requirements for natural resources. Program revenues are generated through the sale of forest

products. The fair market value of all forest products removed due to the proposed action shall be deposited into the Army's Forestry Account which will be utilized for natural resource activities and ecosystem management at Army installations.

4.9.1.2 Terrestrial Wildlife Resources at Fort Meade

Fort Meade contains interior/core, edge, aquatic and urban wildlife habitats. The installation is home to 71 bird, 10 mammal, 22 insect, and no less than 6 reptile and amphibian species (USACE, 2009). Due to development and forest fragmentation, the majority of wildlife found on Post is characteristic of species found in suburban and urban areas. However, portions of Fort Meade have been identified as habitat for Forest Interior Dwelling Birds (FIDS) by Maryland DNR. FIDS require large forest areas to breed successfully and maintain viable populations. Forest interior refers to the area in the center of the forest greater than 300 feet from the forest edge. Edge habitat is the forest area within 300 feet of a forest edge.

Wildlife species found on Fort Meade include white-tail deer (*Odocoileus virginianus),* groundhogs (*Marmota monax*), gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), eastern chipmunk (*Tamias striatus*), field mouse and vole (*Microtu*s spp.), mole (*Scalopus aquaticus*), and fox (*Vulpes vulpes*). Common birds are American robin (*Turdus migratorius*), catbird (*Dumetella carolinensis*), mockingbird (*Mimus polyglyottos*), Carolina chickadee (*Poecile carolinensis*), Carolina wren (*Thryothorus ludovicianus*), house wren (*Troglodytes aedon*), downy woodpecker (*Picoides pubescens*), common flicker (*Colaptes auratus*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), rock dove (*Columba livia*), mourning dove (*Zenaida macroura*), and song sparrow (*Melospiza melodia*) (Michael Baker Jr. Inc., 2007).

Eight species of birds were listed on both the Global and Maryland State Heritage designation list including, purple finch (*Carpodacus purpureus*), hermit thrush (*Catharus guttatus*), blue-throated blue warbler (*Dendroica caerulescens*), dark-eyed junco (*Junco hyemalis*), golden-crowned kinglet (*Regulus satrapa*), red-breasted nuthatch (*Sitta canadensis*), yellow-bellied sapsucker (*Sphyrapicus varius*) and winter wren (*Troglodytes troglodytes*). The purple finch and hermit thrush are also listed as Maryland State Species of Concern. Most of the observed animal species are common to Anne Arundel County and the Central Maryland area.

As of November 2009, Partners in Flight Species of Concern present on Fort Meade include:

- Baltimore oriole (*Icterus galbula*)
- Wood thrush (*Hylocichla mustelina*)

The Migratory Bird Treaty Act (MBTA), implemented in 1918, makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the Act are listed in 50 CFR 10.13.

The Sikes Act provides for cooperation by the Department of the Interior and Department of Defense with State agencies in planning, development and maintenance of fish and wildlife resources on military reservations throughout the United States.

Amphibians found at Fort Meade include: Cricket frog (*Acris crepitans*), eastern American toad (*Bufo americanus*), and leopard frog (*Rana pipiens*). Reptiles include the Black rat snake (*Elaphe obsoleta*), eastern box turtle (*Terrapene carolina*), and common garter snake (*Thamnophis sirtalis*).

4.9.1.3 Aquatic Resources at Fort Meade

Waterbodies that flow though Fort Meade provide habitat for a number of aquatic organisms (USACE, 2007). Over two dozen species of fish are known to occur on Fort Meade, including, but not limited to, the creek chubsucker (*Erimyzon oblongu*), eastern mudminnow (*Umbra pygmaea*), tessellated darter (*Etheostoma olmstedi*), American brook lamprey (*Lampetra appendix*), American eel (*Anguilla rostrata*), smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), glassy darter (*Etheostoma vitreum),* redbreast sunfish (*Lepomis auritus),* bluegill (*Lepomis macrochirus*), and pumpkinseed (*Lepomis gibbosus).*

4.9.1.4 Rare, Threatened and Endangered Species at Fort Meade

No federally listed or proposed endangered or threatened species are known to occur on Fort Meade. Correspondence from USFWS dated July 12, 2012 indicated that except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area (Appendix B). Rare, threatened, and endangered species survey conducted in 2001 (Eco-Science Professionals) as well as a 2009 Flora and Fauna Survey (USACE Baltimore District, 2009) did not identify federally listed endangered or threatened species on Fort Meade.

State-listed species are not protected under the Endangered Species Act; however, whenever feasible, the installation cooperates with State authorities in an effort to identify and conserve State-listed species (Army and Air Force Exchange Service, 2006). A 2002 survey identified the State rare mud salamander (*Pseudotriton montanus*) located along the western boundary of the installation (Versar, Inc.). The Little Patuxent River, adjacent to the waste water treatment plant, supports one of only two populations of the State threatened Glassy darter *(Etheostoma vitreum)* in Maryland. The Glassy darter is a member of the Perch family named for its translucent body.

Fort Meade also contains the following Maryland species of concern:

- Downy bushclover (*Lespedeza stuevei*) – Maryland Watchlist
- Pubescent sedge (*Carex hirtifolia*) Maryland Watchlist (Berman Tract)
- Purple chokeberry (*Aronia prunifloia*) – Maryland Watchlist
- Roughish panicgrass (*Panicum leucothrix*) – Maryland status uncertain

Fort Meade voluntarily maintains four Habitat Protection Areas (HPAs) on the installation. HPAs are self-designated sensitive areas. One of these areas is located proximate to the waste

water treatment plant. HPAs are included in Fort Meade's Integrated Natural Resource Management Plan and are protected as a BMP. Fort Meade coordinates with MDNR and tries to avoid impacting these areas to the maximum extent practical.

4.9.1.5 Wetlands at Fort Meade

There are approximately 207 acres of wetlands on Fort Meade (USACE, 2011b). Wetland mapping conducted at Fort Meade in 2011 showed that no wetlands exist within 500 feet of the proposed project locations (USACE, 2011b) (Figure 4-5, Appendix A).

4.9.1.6 Site Specific Conditions at Fort Meade

Biological resources near the proposed project sites are those found within the open golf courses as well as developed areas of the installation, consisting of landscaped vegetation and various songbirds and other wildlife accustomed to human interaction. Ornamental trees, mature trees and early successional trees also grow at the sites. Common trees include red maple (*Acer rubrum*), sweetgum, white pine (*Pinus strobus*), eastern red cedar (*Juniperus virginiana*), white ash (*Fraxinus americana*), and white oak. The sites provide wildlife habitat. The sites also have invasive species such as Callery pear (*Pyrus calleryana*). Alternative B, the East Campus site, has been cleared for the start of construction of buildings for the initial occupying agencies; however, depending on final site design, additional tree removal may be needed.

A portion of Alternative B lies within a forest conservation area at Fort Meade. Any work would require adhering to FCA standards and possible mitigation.

In their letter dated July 12, 2012, the USFWS indicated that no Federally-listed rare, threatened, or endangered species are known to occur in the areas where the proposed alternatives are located (Appendix B).

In their May 4, 2012, letter, MDNR indicated that there are no State or Federal records for rare, threatened or endangered species in the areas where the proposed alternatives are located (Appendix B).

There are no wetlands located within 500 feet of the proposed sites.

4.9.2 Fort Gordon

4.9.2.1 Vegetation at Fort Gordon

Ninety-two percent (approximately 51,143 acres) of the installation is forested, and approximately 83 percent of the forests (approximately 42,448 acres) are managed for wildlife (including endangered species) and timber production. The major vegetative community on the installation is pine forest, which comprises approximately 50 percent of the land area.

Fort Gordon exhibits a large variety of native vegetation characteristic of both the Upper Coastal Plain and Lower Piedmont Plateau physiographic provinces. The type of vegetation is dictated

partially by elevation. The small and large scale topographic diversity between upland areas and streams forms a gradient of moisture conditions along slopes and vegetation types. Natural communities range from xeric, fire-prone uplands to moist, bottomland swamp forest, subject to periodic flooding. Most of the existing tree and shrub communities common to Fort Gordon can be grouped into nine major forest types. These are the Natural Pine, Pine Plantation, Pine-Scrub Oak, Pine-Hardwood, Scrub Oak, Bottomland Hardwood, Hardwood Pine, Streamside Forest, and Grassland communities (GSRC, 2001).

Dominant overstory species of the Natural Pine community are loblolly pine (*Pinus taeda*), longleaf pine (*Pinus palustris*), shortleaf pine (*Pinus echinata*), and slash pine (*Pinus elliottii*), but include all natural forest types regardless of species (GSRC, 2001). Understory species consist of immature pines (*Pinus* sp.), honeysuckle (*Lonicera* sp.), scrub oak (*Quercus* spp.), sumac (*Rhus* sp.), and short grasses. This community composes approximately 50 percent of the Post.

The Pine Plantation community is a result of reforestation and the overstory is composed predominantly of planted loblolly pine and slash pine. Some planted and direct-seeded longleaf pine are also scattered throughout the Post. These areas will increase as they are restored to longleaf pine from nonnative slash pine and offsite loblolly pine. There are also several small plantations of sand pine (*Pinus clausa*) and Virginia pine, which are not native to the Post (GSRC, 2001). Dominant understory species of this community include sumac rhododendron (*Rhododendron* sp.), wax myrtle (*Morella cerifera*), and short grasses. This community composes approximately 19 percent of the Post.

The Pine-Scrub Oak community is made up of pine with a scrub oak understory that can revert to scrub oak without proper management. Longleaf pine is typically the overstory species associated with this community, but other pine species might include loblolly pine, shortleaf pine, scrub oak, blackjack oak (*Quercus marilandica*), and turkey oak (*Quercus cerris*). Understory species include wax myrtle, greenbrier (*Smilax* sp.), sumac, honeysuckle, and short grasses. This community is usually found on sand ridges and upper slopes where sandy soil is relatively deep (GSRC, 2001). This community inhabits approximately 8 percent of the Post.

The overstory of the Pine-Hardwoods community is commonly composed of longleaf, loblolly, or shortleaf pine mixed with sweetgum, yellow poplar, and black gum (GSRC, 2001). Other overstory species include white oak and northern red oak (*Quercus rubra*). Undergrowth varies from medium to dense and consists of honeysuckle, wax myrtle, sumac, and scrub oak. This community composes approximately 1 percent of the Post.

The Scrub-Oak community is dominated by scrub oak including turkey oak, laurel oak (*Quercus hemisphaerica)*, blackjack oak, sand Post oak (*Quercus stellata* var *margaretta*), and bluejack oak (*Quercus incana*). Scattered longleaf pine and small black gum, persimmon, sand hickory (*Carya pallida*), pignut hickory, and mockernut hickory (*Carya tomentosa*) are often mixed with the above species. Understory growth includes wax myrtle, honeysuckle, sumac, and short grasses. This community is found on sand ridges and upper slopes (GSRC, 2001). This community composes approximately 4 percent of the Post, with the largest stands in the small arms impact area.

The Upland Hardwood community is dominated by upland hardwoods including southern red oak, water oak (*Quercus nigra*), northern red oak, willow oak, white oak, sweetgum, and Post oak (*Quercus stellata*). Also, found in association with upland hardwoods are any pine species and persimmon, pignut hickory, and mockernut hickory of better quality than those found in association with scrub oaks. Upland hardwoods are usually found on lower slopes and around old home sites (GSRC, 2001).

The overstory of the Bottomland Hardwood community is dominated by bottomland hardwoods including black gum and red maple, with scattered sweetgum, water oak, white oak, American beech, hickory (*Carya* sp.), swamp chestnut oak (*Quercus michauxii*), willow oak, American sycamore, and yellow poplar. Any pine species can also be associated with this community. Undergrowth associated with this community is medium to dense and includes wax myrtle, sumac, scrub oak, and honeysuckle. Bottomland hardwood communities are found in branchheads, swamps, and poorly drained soils bordering streams. This community composes approximately 7 percent of the Post.

Dominant species of the Streamside Forest community include black willow, river birch (*Betula nigra*), swamp cottonwood (*Populus heterophylla*), willow oak, and water oak. Understory species include greenbrier, honeysuckle, and alder (*Alnus* sp.). This community is common on seasonal wetlands mainly along Brier Creek in the southwest portion of the Post and composes approximately 3 percent of the Post (GSRC, 2001).

Species of the Grassland Community at Fort Gordon include broomsedge (*Andropogon virginicus*), Southern wiregrass (*Aristida beyrichiana*), Johnson grass (*Sorghum halapense*), crab grass (*Digitarea* sp.); and many other species of grasses, sedges, and composites. Grasslands develop in areas of food plots, clearings in forest areas, and in the understory of open forest types. Grassland communities compose approximately 3 percent of the installation land area.

Some other species commonly found in mixture with the above communities are swamp bay (*Persea pubescens*), flowering dogwood, black cherry (*Prunus serotina*), American holly, river birch, black willow, hackberry (*Celtis laevigata*), American beech, swamp chestnut oak, eastern red cedar, and American hornbeam.

4.9.2.2 Terrestrial Wildlife Resources at Fort Gordon

Fort Gordon is inhabited by a wide variety of wildlife species. Approximately 136 species of birds have been identified on the installation. It is estimated that approximately 31 species of mammals and approximately 67 species of reptiles and amphibians inhabit Fort Gordon. These species are dispersed throughout the various habitats on the installation.

Common mammal species found on the installation include, but are not limited to: white-tailed deer, raccoon, eastern grey squirrel, Virginia opossum, red fox, gray fox (*Urocyon cinereoargenteus*), striped skunk (*Mephitis mephitis*), eastern cottontail rabbit (*Sylvilagus floridanus*), and coyote (*Canis latrans*). Common bird species found on Fort Gordon include, but are not limited to, northern bobwhite quail (*Colinus virginianus*), turkey vulture (*Cathartes*

aura), pileated woodpecker (*Dryocopus pileatus*), northern mockingbird, red-eyed vireo (*Vireo olivaceus*), tufted titmouse (*Parus biocolor*), and Carolina chickadee.

Common reptile and amphibian species found on the installation include, but are not limited to: eastern box turtle, eastern mud turtle (*Kinosternon subrubrum subrubrum*), southern fence lizard (*Sceloponts undulatus undulatus*), brown water snake (*Nerodia taxispilota*), and eastern kingsnake (*Lampropeltis getula getula*).

White-tailed deer, red fox, eastern gray squirrel, raccoon, eastern cottontail rabbit, wood duck (*Aix sponsa*), eastern wild turkey (*Meleagris gallopavo silvestris*), northern bobwhite quail, and mourning dove are actively managed for sport hunting on Fort Gordon.

4.9.2.3 Aquatic Resources at Fort Gordon

Approximately 56 species of fish are known to occur on Fort Gordon, including the bluebarred pygmy sunfish (*Elassoma okatie*). This is the only recorded siting in the State of Georgia (Fort Gordon, 2001). Common fish species on the installation include, but are not limited to, yellow bullhead (*Ameiurus natalis*), flat bullhead (*Ameiurus platycephalus*), bowfin (*Amia calva*), carp (*Cyprinus carpio*), and gizzard shad (*Dorosoma cepedianum*).

In 1995 and 1996, Hoover and Kilgore collected two fish species (Savannah darter [*Etheostoma fricksium*], and sawcheek darter [*Etheostoma serrifer*]) in Spirit Creek that have been designated Species of Special Concern by Georgia DNR, but no state or federally listed species were observed (Hoover and Kilgore, 1999). Additional sampling in 1997-1998 using specialized sampling gear (light traps) revealed that the state-listed (Endangered) bluebarred pygmy sunfish was much more widely distributed across Fort Gordon than originally believed and was abundant in several locations, including McCoys Creek, a tributary of Spirit Creek. Sixty-four bluebarred pygmy sunfish were collected from an off-channel wetland associated with McCoy's Creek in 1997 and 1998 (Rohde, Hoover and Killgore, 2004).

Gordon Lake, a 37-acre impoundment that is fed by Spirit Creek, is managed primarily to provide water for the irrigation of Gordon Lakes Golf Course. It is managed secondarily for recreational fishing. In addition to largemouth bass, bluegill, redear sunfish (*Lepomis microlophus*), and channel catfish (*Ictalurus punctatus*), which are the species most often sought by anglers, Gordon Lake contains gizzard shad, golden shiners (*Notemigonus crysoleucas*), unidentified "suckers," chain pickerel (*Esox niger*), redfin pickerel (*Esox americanus*), pirate perch (*Aphredoderus sayanus*), mud sunfish (*Acantharchus pomotis*), white crappie (*Pomoxis annularis*), warmouth (*Lepomis gulcosus*), pumpkinseed, redbreast sunfish, yellow perch (*Perca flavescens*), and several (unidentified) darters.

4.9.2.4 Rare, Threatened and Endangered Species at Fort Gordon

The term "special concern species" refers to federally- and state-listed species. Table 4-3 list the 16 animal species (five birds, two mammals, three reptiles and amphibians, and six fish) and six plant species listed as either threatened, endangered, or of special concern by the USFWS or the State of Georgia that are known to occur on Fort Gordon.

Table 4-3: Rare, Threatened, and Endangered Species at Fort Gordon, Georgia			
Common Name	**Scientific Name**	**State Status**	**Federal Status**
Birds			
Bachman's sparrow	*Aimophila aestivali*	Rare	
Southeastern American kestrel	*Falco sparverius paulu*	Rare	
Migrant loggerhead shrike	*Lanius ludovicianus migrans*	Vulnerable	
Wood Stork	*Mycteria americana*	Endangered	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered	Endangered
Mammals			
Southeastern bat	*Myotis austrororiparius*	Vulnerable	
Rafinesque's big eared bat	*Corynorhinus rafinesquii*	Rare	
Reptiles and Amphibians			
Gopher tortoise	*Gopherus polyphemus*	Threatened	
Southern hognose snake	*Heterodon simus*	Threatened	
Florida pine snake	*Pituophis melanoleucus mugitus*	Vulnerable	
Fish			
Bluebarred pygmy sunfish	*Elassoma okatie*	Endangered	
Mud sunfish	*Acantharchus pomotis*	Vulnerable	
Savannah darter	*Etheostoma fricksium*	Imperiled	
Sawcheek darter	*Etheostoma serriferum*	Imperiled	
Sandbar shiner	*Notropis scepticus*	Rare	
Plants			
Sandhill rosemary	*Ceratiola ericoides*	Threatened	
Atlantic white cedar	*Chamaecyparis thyoides*	Rare	
Indian olive	*Nestronia umbellula*	Rare	
Sweet pitcher plant	*Sarracenia rubrarubra*	Threatened	
Pickering's morning glory	*Stylisma pickeringii*	Threatened	
Silky camellia	*Stewartia malacodendron*	Rare	

4.9.2.5 Wetlands at Fort Gordon

According to the National Wetland Inventory (NWI), there are approximately 4,395 acres of wetlands on Fort Gordon (Figure 4-6, Appendix A) (USFWS, 2012). These wetlands consist of both alluvial and nonalluvial wetlands. Alluvial wetlands are associated with stream channels and depend on the flooding regime of the stream system. With the exception of Brier Creek, the floodplain of most alluvial wetlands on Fort Gordon is inconspicuous due to rolling topography. These streams fit the description of "small stream swamps" where separate fluvial features and associated vegetation are too small or poorly developed to distinguish (USAGFG, 2008).

Nonalluvial wetlands are associated in areas where groundwater emerges or precipitation is held close to the soil surface. Nonalluvial wetlands on Fort Gordon included seepage areas and isolated wetlands. Seepage areas occur on saturated soils where the water table remains immediately below the soil surface. Plant species associated with these types of wetlands include, but are not limited to sweetbay magnolia (*Magnolia virginiana*) in the midstory and sweetgum and yellow poplar in the overstory. Isolated wetlands include small isolated ponds with grasses and herbs as dominant vegetation. If present, the overstory consists primarily of sweetgum and black gum (USAGFG, 2008).

4.9.2.6 Site Specific Conditions at Fort Gordon

Biological resources near the proposed project sites are those found within the developed areas of the installation, consisting of landscaped vegetation and various songbirds and other wildlife accustomed to human interaction. The sites consist mainly of mowed lawn, ornamental trees, loblolly pine, wax myrtle, sumac, turkey oak, and *Rubus* sp.

Fort Gordon's Natural Resource Branch indicated that the site of Alternative C has some trees that may be able to be harvested for fuel chips or pulpwood should this site be chosen.

Correspondence from the USFWS on May 12, 2012, indicated that no federally listed rare, threatened, or endangered species are known to occur in the potential project areas (Appendix C). Additional correspondence from USFWS on October 21, 2013 (Appendix C) indicated that Alternative G is not likely to adversely affect any rare, threatened, or endangered species. One southeastern American kestrel nesting box is located within the site of Alternative G. The American kestrel nest box program is managed under the approved Fort Gordon Integrated Natural Resources Management Plan and has previously been coordinated and approved by state and federal wildlife agencies. Fort Gordon biologist will relocate American kestrel nesting boxes as necessary to mitigate any potential impacts.

Based on NWI mapping and site field visits, it is unlikely that there are wetlands located within the potential project areas. If ARCYBER becomes aware of wetlands within the project disturbance area, the appropriate permit applications will be submitted to federal and state agencies.

4.10 CULTURAL RESOURCES

Cultural resources are "historic properties" as defined by the NHPA of 1966, "cultural items" as defined by the Native American Graves Protection and Repatriation Act of 1979 (NAGPRA), "archaeological resources" as defined by the Archaeological Resource Protection Act of 1979 (ARPA), "sacred sites" as defined by EO 13007 to which access is afforded under the American Indian Religious Freedom Act of 1987 (AIRFA), and collections and associated records as defined in 36 CFR 79.

Archaeological resources consist of locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains. Architectural resources include standing buildings, districts, bridges, dams, and other structures of historic significance. Traditional cultural properties include locations of historic occupations and events, historic and contemporary sacred and ceremonial areas, prominent topographical areas that have cultural significance, traditional hunting and gathering areas, and other resources that Native Americans or other groups consider essential for the persistence of their traditional culture.

Several federal laws and regulations—including the NHPA of 1966, the Archaeological and Historic Preservation Act of 1974, the American Indian Religious Freedom Act of 1978, the Archaeological Resource Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1990—have been established to manage cultural resources. In order for a

cultural resource to be considered significant, it must meet one or more of the following criteria for inclusion on the National Register of Historic Places (NRHP):

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and: 1) that are associated with events that have made a significant contribution to the broad patterns of our history; or 2) that are associated with the lives or persons significant in our past; or 3) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or 4) that have yielded, or may be likely to yield, information important in prehistory or history.

4.10.1 Fort Meade

The most recent ICRMP for Fort Meade was prepared in 2011 by the Baltimore District of the USACE (USACE, 2011a). All of the known resources at Fort Meade that are 50 years old, or older, are being evaluated for eligibility for listing on the NRHP.

The entirety of Fort Meade, including the locations of Alternatives A and B, has been investigated for the presence of archaeological resources. No archaeological resources were identified in either of the alternative areas. Five archaeological sites were identified to the north and west of Alternative A. Site 18AN234 was initially identified in 1972 by a groundskeeper for the golf course. At that time, several lithic artifacts, including a possible projectile point (arrow or spear head), were recovered from the ground surface. Since the initial identification, the area around 18AN234 has been dramatically altered. It appears that 18AN234 has been disturbed and no evidence of archaeological resources remains. The site is not National Register eligible. Sites 18AN930 and 931 were a camp sites occupied from the Late Archaic through the Woodland Periods (3,000 B.C. through A.D. 1600). Additional evaluation of the sites yielded only two eroded, quartz-tempered ceramic shards dating to the Woodland Period. No other diagnostic artifacts were recovered, and no features were identified during the Phase II excavations. The artifact density was low, and no horizontal or vertical patterning was observed. These two sites are also not eligible for the National Register.

The Downs Farmstead archaeological site (18AN973) is located approximately 1500 feet north of Alternative A. The site has an associated family cemetery. Both the site and the cemetery were evaluated for National Register eligibility in 2012. The archaeological site was determined ineligible for National Register listing, although the eligibility of the cemetery could not be determined.

The archaeological investigation of Sites 18AN930 and 18AN931 revealed the presence of Site 18AN1240, which had not been located during previous Phase I investigations. Site 18AN1240 Archeological site 18AN1240 is a Late Archaic Period base camp, situated on a ridge overlooking a tributary of the Little Patuxent River approximately 1400 feet to the west of Alternative A. Site 18AN1240 is approximately 2,700 square meters in size. Field testing determined that the site had intact, and possibly stratified, artifact deposits. This site was

recommended as being eligible for inclusion in the NRHP. The Maryland Historic Trust concurred with this recommendation in a letter dated April 28, 2003.

The possible locations of two undocumented historic period cemeteries were identified during environmental studies for other development projects at Fort Meade. Neither of these two possible cemeteries are in Alternatives A or B. The two possible cemeteries are located near the 3rd hole of the Parks Golf Course and the 5th hole of the Applewood Golf Course. The reported general locations of these cemeteries are directly south of the U.S. Army Antenna Site. Attempts to locate these cemeteries have been unsuccessful, including a ground penetrating radar survey in 2010.

4.10.2 Fort Gordon

The most recent ICRMP for Fort Gordon was prepared in 2011 (USAGFG, 2011). Cultural resources at Fort Gordon include archeological sites and potentially historic structures/buildings. Most of Fort Gordon's property has been surveyed for the presence of archaeological sites and the NRHP eligibility of buildings and structures built between 1942 and 1989. There are 41 archaeological sites that are eligible for the NRHP, and 114 sites that are potentially eligible for the NRHP. The historic building surveys determined that no buildings on Fort Gordon were determined eligible for the NRHP. However, the Georgia SHPO recommends Building 33500, Woodworth Library, as eligible for its local and regional architectural significance as few buildings of this style remain intact in Georgia. According to the survey, 42 buildings will need to be reevaluated when they reach 50 years old.

Correspondence from the Georgia Historic Preservation District on October 8, 2013, indicated that all alternatives on Fort Gordon will have no effect on structures or archaeological sites that are listed in or eligible for listing in the NRHP.

4.11 HAZARDOUS, TOXIC, AND RADIOACTIVE SUBSTANCES (HTRS)

A hazardous material is defined as any substance that is 1) listed in Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); 2) designated as a biologic agent and other disease causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring; 3) listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices; or 4) defined as a hazardous waste per 40 CFR 261.3 or 49 CFR 171. Hazardous materials are federally regulated by the USEPA in accordance with the Federal Water Pollution Control Act; CWA; Toxic Substance Control Act (TSCA); Resource Conservation and Recovery Act (RCRA); CERCLA; and CAA.

The promulgation of TSCA (40 CFR Parts 700 to 766) represented an effort by the Federal government to address those chemical substances and mixtures for which it was recognized that

the manufacture, processing, distribution, use, or disposal may present unreasonable risk of personal injury or health of the environment, and to effectively regulate these substances and mixtures in interstate commerce. The TSCA Chemical Substances Inventory lists information on more than 62,000 chemicals and substances. Toxic chemical substances regulated by USEPA under TSCA include asbestos and lead, which for the purposes of this EA, are evaluated in the most common forms found in buildings, namely asbestos-containing materials (ACM) and lead-based paint (LBP). ACM includes materials that contain more than 1 percent asbestos and is categorized as either friable or non-friable. LBP includes paint having lead levels equal to or exceeding 0.5 percent by weight. In addition to asbestos and lead, renovation/demolition activities have the potential to disturb mercury and poly-chlorinated biphenyl (PCBs). These materials are also regulated under TSCA as RCRA Universal Waste. Buildings may contain liquid mercury in thermostats and thermometers, and fluorescent lighting fixtures typically contain elemental mercury in the fluorescent light bulb; compact fluorescent lamps also contain mercury. In addition, fluorescent lighting fixtures have potential to contain ballasts containing PCBs.

RCRA defines hazardous waste as wastes or combination of wastes that, because of quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serous irreversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. All hazardous wastes are classified as solid wastes. A solid waste is any material that is disposed, incinerated, treated, or recycled except those exempted under 40 CFR 261.4.

4.11.1 Fort Meade

Fort Meade's Directorate of Public Works Environmental Division is responsible for managing hazardous materials and waste. Both the installation and NSA operate under a Spill Prevention Control and Countermeasures Plan (SPCCP)/Installation Spill Contingency Plan (ISCP) (Science Applications International Corporation, 2006) for all facilities where hazardous materials are stored. The SPCCP/ISCP Plan delineates measures and practices that require implementation to prevent and/or minimize spill/release from storage and handling of hazardous materials to protect ground and water surfaces. In accordance with State and Federal law and Army regulations, the SPCCP/ISCP is updated at least every 3 years, or when significant changes in operations occur that could impact the likelihood of a spill. The ISCP provides emergency response instructions for spills and uncontrolled releases of hazardous materials. Instructions include notification, probable spill routes, control measures, exposure limits, and evacuation guidelines. Material Safety Data Sheets (MSDS) that provide information about health hazards and first-aid procedures are included in the ISCP.

Fort Meade also has an Installation Hazardous Waste Management Plan (DoD, 2011). Those who handle or manage hazardous materials or hazardous waste are trained in accordance with Federal, State, local, and Army requirements. Each facility has appointed an emergency management coordinator, who is responsible for emergency response actions until relieved by hazardous materials spill response personnel.

The Integrated Pest Management Plan (IPMP) provides a framework through which pest problems can be effectively addressed at Fort Meade (DoD, 2007). The plan was prepared in 2007 and was validated annually since then because no significant changes were required. The plan will be validated again for FY 2013. Elements of the program, including health and environmental safety, pest identification, pest management, pesticide storage, transportation, use and disposal are defined within the plan. Used as a tool, this plan reduces reliance on pesticides, enhances environmental protection, and maximizes the use of integrated pest management techniques. Pesticides are stored at the entomology building, and used on Fort Meade in accordance with all applicable Federal, State, and Installation guidelines.
The possibility of PCBs in electrical light ballast, capacitors, systems and lights, LBP, and ACM exists at the installation. The installation has a continuing program to remove PCB-containing material from electrical equipment. Most lighting ballasts are expected to contain PCBs and are treated as containing PCBs unless they are labeled PCB-free.

LBP may be found in structures older than 1978. The installation's 2006 Lead Hazard Management Plan (DoD, 2006) procedures and protocols are used in the identification, control and removal of LBP from real property at Fort Meade.

ACM may be found within older buildings at Fort Meade and on buried steam lines at the installation. Some of these lines may be present within the project area. The Fort Meade 2008 Asbestos Management Program Standard Operating Procedure (SOP) (DoD, 2008) provides the procedures for identifying, controlling, and disposing of asbestos containing materials.

The DoD established the Installation Restoration Program (IRP) in 1975 to provide guidance and funding for the investigation and remediation of hazardous waste sites caused by historical disposal activities at military installations. The fundamental goal of the Fort Meade IRP is to protect human health, safety and the environment. The IRP is carried out in accordance with all federal, state and local laws. The primary federal laws are CERCLA and Superfund Amendments and Reauthorization Act (SARA). In 2009, Fort Meade signed a Federal Facility Agreement (FFA) with the USEPA, U.S. Department of the Interior (DoI) and U.S. Architect of the Capitol (AoC). This document establishes the role that Fort Meade and the USEPA each play in the restoration of the installation and the formal mechanisms of this process. The IRP's staff works closely with the USEPA, MDE and local government agencies to ensure that cleanup processes are conducted properly and efficiently. The staff also receives input from community groups and nearby residential areas.

4.11.1.1 Site Specific Conditions at Fort Meade

Building 8605 was constructed in 1954. The building was inspected and analyzed in 1995 and 1996 for asbestos. Asbestos was detected in 23 of the 138 samples analyzed. During the latest testing on 7 November 2011 Building 8605 tested positive for LBPs. EPA shows no records of PCBs (EPA, 2013).

The proposed locations for the new facility located at the northwest corner of Mapes Road and Taylor Avenue (Alternative A) and the East Campus (Alternative B) are categorized as Site Condition II by the Fort Meade staff in accordance with AR 200-1 and AR 4201: "There is no

known contamination at the site. There remains some potential that contamination may be encountered during construction". As a former mortar range, an unexploded ordnance (UXO) survey has been conducted which encountered and removed metal dummy mortar shell and small arm rounds in boxes. Any action may require standby Unexploded Ordnance Construction support. The potential for UXO being present is low.

Under the IRP program, a risk analysis was performed at several parcels within the East Campus and determined that there were no soil risks and minimal hazards to groundwater within the location proposed for Alternative B (USACE, 2004) at Parcels 1, 2, and 3 as shown in Figure 4-7, Appendix A. Pending approval from the USEPA, Parcel 8 would also be classified as no further action required. It was also determined that there were no soil risks and minimal hazards to groundwater within the location proposed for Alternative A (USACE, 2004) at Parcel 7. These parcels were identified based on Community Environmental Response Facilitation Act (CERFA) categorization scheme and review of installation documents (USACE, 2004).

4.11.2 Fort Gordon

Fort Gordon has a Hazardous Materials Control Center (HMCC) that provides materials on an as-needed basis to reduce the quantities of materials that are stored throughout the Post. The mission of the HMCC is to track all hazardous materials and hazardous wastes, monitor hazardous materials use, assist in hazardous materials reutilization, look for efficiencies, and promote pollution prevention and hazardous materials and hazardous wastes minimization. The materials are tracked via a Hazardous Substance Management System (HSMS). Fort Gordon maintains a SPCCP and an ISCP. The SPCCP identifies areas that are at risk for spills that could cause harm to human health and the environment. It also lists measures that have been taken to reduce or eliminate the risk of potential contamination in the event of a spill. The SPCCP was last updated in 2010 (USAGFG, 2010b). The ISCP provides information for personnel to respond to potential spills. The Fort Gordon Environmental Branch maintains the Hazardous Waste Management Plan and an Installation-wide inventory of all hazardous materials and hazardous wastes. The Hazardous Waste Management Plan provides guidance on the management of hazardous materials and hazardous wastes (USAGFG, 2003).

No evidence exists that hazardous substances were stored, released, or disposed of on the subject sites. In addition, no evidence of mold exists, and no instances of radon exceeding four picocuries per liter have been recorded at the sites (USAGFG, 2006).

The installation has a continuing program to remove PCB-containing material from electrical equipment. However, most lighting ballasts are expected to contain PCBs and are treated as containing PCBs unless they are labeled PCB-free.

Under the Environmental Restoration Program, Fort Gordon conducted an Installation Assessment in 1982 that identified 36 Solid Waste Management Units (SWMUs) within the installation. Since that time, additional sites have been added bringing the total to 41 SWMUs at Fort Gordon (USAGFG, 2006).

4.11.2.1 Site Specific Conditions at Fort Gordon

Based on partial survey reports, buildings in the Back Hall area may contain ACM and/or LBP. Although abatement and remediation actions have occurred in the past on an as-needed basis, surveys and abatement records are not complete. Therefore, it is assumed ACM and LBP still exist in these buildings (USAGFG, 2010a). In addition, mercury and PCB-containing light ballasts may also exist in these buildings.

Two SWMUs are located near the Whitelaw Hall site (Alternative E) (USAGFG, 2006). SWMU-024A is within the Alternative E site between 16th and 18th Streets and 103rd and 109th Avenues. It is west-southwest of SWMU-024 (17th Street Landfill). Contamination at SWMU-024A was discovered during the investigation of SWMU-024. The origin of the contamination at SWMU-024A is unknown; however, the area east of 17th Street was a vehicle maintenance area that contained wash racks, motor repair shops, grease racks, oil storage houses, and fuel points. Seventeen surface soil samples were collected at SWMU-024A between 1998 and 2000. Thirty-four subsurface soil samples were collected from 14 soil borings in 1998 and 2000. Eleven groundwater samples were collected between 1994 and 2000. Ten monitoring wells were installed during the investigations of SWMU-024A. The following constituents of potential concern have been identified at SWMU-024A: metals in the soil and groundwater, VOCs in the groundwater, and semi-volatile organic compounds in the soil. In 2005, Fort Gordon conducted a RCRA Facility Investigation (RFI) at SWMU-024A and submitted the RFI Report to Georgia EPD for approval and issuance of No Further Action under RCRA Subtitle C (hazardous waste). Georgia EPD approved the RFI Report and tentatively approved No Further Action under RCRA Subtitle C for SWMU-024A in 2005 with the provision that access must be allowed for sampling the former SWMU-024A groundwater monitoring wells in case they need to be used to monitor SWMU-024 (USAGFG, 2006).

Immediately to the east of the Alternative E site is SWMU-024, 17th Street Landfill, which has the following constituents of potential concern: metals and VOCs in the groundwater, water, and sediments. Fort Gordon conducted an RFI of SWMU-024, submitted the RFI Report to Georgia EPD in November 2005, and requested No Further Action under RCRA Subtitle C. Fort Gordon is waiting for a response from Georgia EPD. The landfill is still required to comply with RCRA Subtitle D (solid waste) postclosure requirements for monitoring of the cap, methane, groundwater, and surface water for up to 30 years (USAGFG, 2006).

4.12 TRAFFIC AND ROADWAYS

For the purposes of this analysis, traffic and roadways include the highways that provide local and regional access to the action alternatives. The operations of intersections (signalized, unsignalized, and roundabouts) are measured by Level of Service (LOS), and the amounts of delay experienced per vehicle during peak commuting hours. The Traffic Study, which is the basis for the transportation resource analysis contained in this EA, can be found in Appendix D.

The ROI for traffic and transportation encompasses the major intersections within the vicinity of the action alternatives located at Fort Meade and Fort Gordon. The ROI for Fort Meade (Figure

4-8, Appendix A) includes 16 intersections, while the ROI for Fort Gordon (Figure 4-9, Appendix A) includes 20 intersections.

Existing morning (6:00 AM to 9:30 AM) and afternoon (3:30 PM to 5:30 PM) turning movement counts were collected at Fort Meade over the course of several weekdays in late July and early August 2012. The morning peak hour at most locations began between 6:45 AM and 7:30 AM. The afternoon peak hour generally started between 3:30 and 4:30 PM. Counts at Fort Gordon took place in the middle of July 2012 between the hours of 6:00 AM and 9:00 AM, and from 3:00 PM to 6:00 PM. The morning peak hour at Fort Gordon generally began between 6:45 AM and 7:15 AM, while the afternoon peak hour typically started between 3:45 PM and 4:45 PM. Existing traffic count summaries are included in the Traffic Study (Appendix D).

4.12.1 Fort Meade

Fort Meade is located in Anne Arundel County and is served by the surrounding roadway network:

- Baltimore-Washington Parkway (Maryland [MD] Route 295).
- MD Route 175 (Annapolis Road).
- MD Route 32.
- MD Route 198.

The Fort Meade installation is accessible from the following five access gates:

- Gate 1: Mapes Road and MD Route 32,
- Gate 2: Mapes Road and MD Route 175,
- Gate 3: Rockenbach Road and MD Route 175,
- Gate 6: Llewellyn Avenue and MD Route 175, and
- Gate 7: Reece Road and MD Route 175 (Demps Visitor Control Center).

Table 4-4 displays the results of the LOS analysis for the study intersections under existing conditions. LOS rates road performance on a scale of A to F, with LOS A reflecting free flowing conditions and LOS F representing heavily congested conditions (see Appendix D for descriptions of all LOS ratings). Figure 4-8 (Appendix A) depicts the existing intersections within the ROI.

Table 4-4: Intersection Level of Service Summary, Existing Conditions at Fort Meade, Maryland

ID	Intersection	Traffic Control	Peak Hour	Existing	
				Delay (a)	LOS (b)
1	MD 32 Eastbound/Laurel Ft. Meade Rd.	Roundabout	AM	20.9	C
			PM	30.7	D
2	MD 32 Westbound/Mapes Rd.	Roundabout	AM	44.2	**E**
			PM	87.6	**F**
3	Mapes Rd./O'Brien Rd.	Signal	AM	15.6	B
			PM	39.5	D

Table 4-5: Intersection Level of Service Summary, Existing Conditions at Fort Meade, Maryland					
ID	**Intersection**	**Traffic Control**	**Peak Hour**	**Existing**	
4	Mapes Rd./6th Armored Cavalry Rd.	Two-Way Stop	AM	28.5	D
			PM	172.1	**F**
5	Mapes Rd./Zimborski Ave.	Two-Way Stop	AM	ECL	**F**
			PM	22.3	C
6	Mapes Rd./Taylor Ave.	Signal	AM	22.0	C
			PM	15.0	B
7	Mapes Rd./Cooper Rd.	Signal	AM	64.1	**E**
			PM	30.5	C
8	Mapes Rd./Ernie Pyle St.	Signal	AM	29.4	C
			PM	26.0	C
9	Llewellyn Ave./Annapolis Rd.	Signal	AM	123.4	**F**
			PM	85.6	**F**
10	Mapes Rd./Annapolis Rd.	Signal	AM	57.6	**E**
			PM	55.2	**E**
11	Reece Rd./Annapolis Rd.	Signal	AM	31.6	C
			PM	26.1	C
12	Rockenbach Rd./Annapolis Rd.	Signal	AM	64.5	**E**
			PM	57.7	**E**
13	Reece Rd./Cooper Rd.	Signal	AM	18.8	B
			PM	14.7	B
14	Rockenbach Rd./Cooper Rd.	Signal	AM	18.4	B
			PM	18.2	B
15	Rockenbach Rd./29th Division Blvd.	Two-Way Stop	AM	10.2	B
			PM	12.9	B
16	Rockenbach Rd./O'Brien Rd.	Two-Way Stop	AM	12.3	B
			PM	12.1	B

Notes:

Bold values indicate intersections operating at LOS E or F.

Ave. = Avenue; Blvd. = Boulevard; ECL = Exceeds Calculable Limit; LOS = Level of Service; Rd. = Road; St. = Street.

(a) Delay is measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the Highway Capacity Manual and National Cooperative Highway Research Program Report 672, and performed using Synchro 8 and the Georgia Department of Transportation Roundabout Analysis Tool version 2.1.

4.12.2 Fort Gordon

Transportation in and around Fort Gordon is achieved mainly via road and street networks, a rail system, pedestrian walks, trails and bike paths. The transportation system serves installation traffic consisting of everyday work, living, and recreations trips. Two U.S. Highways, 1 and 78, traverse the installation. I-520 serves as a connection road between U.S. Highway 1 and I-20 at the north portion of the installation traveling east west from Augusta to Atlanta. Four public entrances serve the installation.

Table 4-5 displays the results of the LOS analysis for the study intersections under existing conditions. LOS rates road performance on a scale of A to F, with LOS A reflecting free flowing

conditions and LOS F representing heavily congested conditions (see Appendix D for descriptions of all LOS ratings). Figure 4-9 (Appendix A) depicts the existing intersections within the ROI.

Table 4-5: Intersection Level of Service Summary, Existing Conditions at Fort Gordon, Georgia

ID	Intersection	Traffic Control	Peak Hour	Existing	
				Delay (a)	LOS (b)
1	Gordon Highway/13th St.	Two-Way Stop	AM	56.4	**F**
			PM	23.0	C
2	Gordon Highway/19th St.	Signal	AM	44.9	D
			PM	96.3	**F**
3	Gordon Highway/7th Ave.	Signal	AM	29.7	C
			PM	72.1	**E**
4	13th St./19th St.	Two-Way Stop	AM	33.0	D
			PM	ECL	**F**
5	Chamberlain Ave./15th St.	Two-Way Stop	AM	ECL	**F**
			PM	81.8	**F**
6	Chamberlain Ave./19th St.	Signal	AM	36.5	D
			PM	103.0	**F**
7	Chamberlain Ave./25th St.	Two-Way Stop	AM	16.5	C
			PM	17.0	C
8	Chamberlain Ave./Rice Rd.	Signal	AM	14.0	B
			PM	42.0	D
9	Chamberlain Ave./Kilbourne St.	One-Way Stop	AM	ECL	**F**
			PM	ECL	**F**
10	Barnes Ave./19th St.	Two-Way Stop	AM	51.1	**F**
			PM	17.8	C
11	Barnes Ave./25th St.	All-Way Stop	AM	17.4	C
			PM	15.5	C
12	Brainard Ave./Kilbourne St.	One-Way Stop	AM	ECL	**F**
			PM	ECL	**F**
13	Lane Ave./15th St.	All-Way Stop	AM	38.2	**E**
			PM	38.3	**E**
14	Lane Ave./19th St.	Two-Way Stop	AM	18.2	C
			PM	25.7	D
15	Lane Ave./25th St	Two-Way Stop	AM	23.0	C
			PM	186.9	**F**
16	Lane Ave./Rice Rd.	One-Way Stop	AM	57.0	**F**
			PM	58.1	**F**
17	North Range Rd./111th St.	Two-Way Stop	AM	7.2	A
			PM	10.7	B

Table 4-5: Intersection Level of Service Summary, Existing Conditions at Fort Gordon, Georgia					
ID	Intersection	Traffic Control	Peak Hour	Existing	
				Delay (a)	LOS (b)
18	North Range Rd./Ave. of the States	Two-Way Stop	AM	ECL	**F**
			PM	110.3	**F**
19	US Highway 1 Southbound/Ave. of the States	One-Way Stop	AM	26.3	D
			PM	48.8	**E**
20	US Highway 1 Northbound/Tobacco Rd.	One-Way Stop	AM	29.5	D
			PM	31.5	D

Notes:

Bold values indicate intersections operating at LOS E or F.

Ave. = Avenue; Blvd. = Boulevard; ECL = Exceeds Calculable Limit; LOS = Level of Service; Rd. = Road; St. = Street.

(a) Delay is measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the Highway Capacity Manual and National Cooperative Highway Research Program Report 672, and performed using Synchro 8 and the Georgia Department of Transportation Roundabout Analysis Tool version 2.1.

4.13 INFRASTRUCTURE AND UTILITIES

4.13.1 Fort Meade

4.13.1.1 Potable Water at Fort Meade

American Water owns and operates the potable water system that serves Fort Meade. Water is drawn from six groundwater wells located throughout the Installation to American Water's water treatment plant, which is located in the southwest quadrant of the cantonment area near the intersection of Mapes and O'Brien Roads. The maximum allowed draw capacity permitted by MDE is 3.3 MGD, or approximately 1,200 million gallons per year (Permit No. AA1969G021 (07), effective 1 June 2012, expires 1 June 2024).

4.13.1.2 Domestic and Industrial Wastewater and Fort Meade

Sanitary sewer collection and pumping system at Fort Meade is comprised of 58 miles of piping on and around the installation, 55 miles of gravity sewers, three miles of force mains, and nine pumping stations. The pipe diameter of the gravity sewers, installed between 1941 and 1987, range from four to 30 inches. The force mains have pipe diameters that range from three inches to 24 inches. Wastewater from the gravity sewers and force mains flow to two major pump stations: the Leonard Wood and the East Side pump stations. Each station has three pumps, each rated at approximately 1500 GPM, at average operating head, thereby providing total station capacity of 4500 GPM (9000 GPM between the two stations). The wastewater treatment plant (WWTP) has a design flow of 12.3 MGD. The average flow the WWTP is currently approximately 2.5 MGD. American Water is responsible for the operation and maintenance of the wastewater system at Fort Meade.

4.13.1.3 Electric and Gas at Fort Meade

Electrical power is supplied to the installation by Baltimore Gas and Electric (BG&E) through four distribution substations. The primary source for Fort Meade (non-NSA) is a 110 kilovolt (kV) redundant feeder pair from the BG&E Waugh Chapel Power Station along the south and east sides of the installation along MD Route 32 that terminates at Substation #3. A second pair of 110 kV feeders originates in the BG&E High Ridge Power Station west of the installation and back feeds the substation utilizing the Waugh Chapel distribution line. The installation also has 18 engine-driven emergency standby generators at 15 locations should there be a BGE power outage.

Natural gas is supplied by BG&E to the Defense Energy Support Center, a DoD agency, which in turn provides it to Fort Meade. Natural gas is supplied via high pressure (100 pound force per square inch gauge) mains owned by BG&E, which form a loop on the installation. The extensive natural gas distribution system includes BG&E and government owned systems. Most buildings are within a few hundred feet of an active supply line (USACE, 2007).

4.13.1.4 Telecommunications at Fort Meade

The Network Enterprise Center has oversight for the communication system at Fort Meade. Fiber-optic cable is used exclusively on the installation (NSA, 2010).

4.13.1.5 Solid Waste Management at Fort Meade

No active landfills are located on Fort Meade; all solid waste is transported to a permitted facility located off the Installation. Solid wastes are currently collected and disposed of under the base operations contract with Melwood.

4.13.2 Fort Gordon

4.13.2.1 Potable Water at Fort Gordon

Fort Gordon's potable water system was privatized to the City of Augusta Utilities Department (AUD) in 2006. AUD is responsible for the operation and maintenance of the city's water systems. AUD's water is supplied from two sources – the Savannah River provides water for the Surface Water Treatment Plant and the Crutaceous Aquifer provides water for the Ground Water Treatment Plant (AUD, 2012). In an April 23, 2012, letter, the Augusta Planning and Development Department indicated that the existing potable water system to the installation can accommodate substantial growth.

4.13.2.2 Domestic and Industrial Wastewater at Fort Gordon

Fort Gordon's wastewater system was also privatized to AUD in 2006. AUD is responsible for the operation and maintenance of the city's wastewater systems. AUD's main WWTP, the James B. Messerly WWTP, located near the Augusta Airport, has a permitted average design flow of 46.1 MGD and currently treats approximately 34 MGD (AUD, 2009; USEPA, 2006; and

USEPA, 2009a). AUD also operates a smaller treatment plant, the Spirit Creek WWTP, located south of Tobacco Road, which is permitted to treat approximately 2.24 MGD (AUD, 2009).

The Fort Gordon WWTP has been taken offline and the base connected to the Augusta-Richmond County system. Demolition of the WWTP was completed in 2011. Fort Gordon's WWTP had a design capacity of 5 MGD, although daily flow is approximately 2 MGD (USAGFG, 2010a). Treated wastewater was discharged into Spirit Creek under NPDES permit No. GA0003484 which expired in November 2011. The gravity sewer collection system is in good condition and provides adequate service for all portions of the cantonment area. Septic tanks are used to treat sanitary wastewater at remote locations of the installation not served by the sanitary sewer system (USAGFG, 2006). The septic systems remain Army-owned and maintained.

4.13.2.3 Electric and Gas at Fort Gordon

Fort Gordon's electrical service was privatized in February 2007, and is owned and operated by Georgia Power Company. The system receives 115 kV primary input at two jointly owned and operated substations (main and hospital), which provide electrical power to the entire installation (USACE, 2010).

Natural gas is provided by Atlanta Gas and Light Company, which owns the main natural gas distribution piping on Fort Gordon and all system piping and components downstream of the regulators up to the facilities. An 8-inch main runs through Fort Gordon along a dedicated 10-foot easement for the 8.5 miles of pipe (USAGFG, 2006). Natural gas is supplied to heating and cooling plants, housing, barracks, medical facilities, academic facilities, and other facilities (USACE, 2010).

4.13.2.4 Telecommunications at Fort Gordon

The Army owns and operates the on-Post business telecommunication system. The switchboard has a capacity of 14,200 lines, of which 5,300 lines are in use. BellSouth provides commercial telephone service for the family housing, guest house, and bachelor officer's quarters (USACE, 2010). All telecommunications are distributed throughout the installation by buried cable and overhead lines (USAGFG, 2006).

4.13.2.5 Solid Waste Management at Fort Gordon

Fort Gordon operates one active landfill, the Fort Gordon Landfill on Gibson Road, which is permitted by Georgia under Permit 121-014D (SL). The landfill accepts nonhazardous demolition debris from the installation that cannot be recycled; however, use of the landfill is restricted and must be coordinated through the Directorate of Public Works (USACE, 2010). The Fort Gordon Landfill receives approximately 2,736 cubic yards of waste per year and has 121,873 cubic yards of capacity remaining, or 45 years (Georgia Department of Community Affairs, 2012).

Other solid waste is disposed of at the Augusta-Richmond County Landfill on Deans Bridge Road under contract (USACE, 2010). The landfill operates under Permit 121-018D (MSWL). The landfill receives approximately 406,536 cubic yards of waste per year and has approximately 65,857,376 cubic yards of remaining capacity, or 162 years (Georgia Department of Community Affairs, 2012).

Fort Gordon actively participates in recycling/waste minimization efforts. Metals and paper/cardboard are collected for off-Post recycling. Yard wastes and woody debris from grounds maintenance are processed at the on-Post compost facility/mulch pit located in Training Area #17 (USAGFG, 2006).

4.14 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN

The ROI for socioeconomic impacts is defined for the Fort Meade alternatives, as Anne Arundel County, Maryland, and for the Fort Gordon alternatives as Richmond County, Georgia. Socioeconomic data are provided in this section to establish baseline conditions. Data consist primarily of publicly-available information about Anne Arundel and Richmond Counties and to provide perspective the States of Maryland and Georgia.

EO 12898 declared that each federal agency will make environmental justice part of its mission. Environmental justice focuses on the protection for racial and ethnic minorities and/or low-income populations to be disproportionately affected by project-related impacts. Analysis of environmental justice is initiated by determining the presence and proximity of these segments of the population relative to the specific locations that would experience adverse impacts to the environment. As defined for the purposes of identifying relevant populations, minority areas are census block groups with a 50 percent or greater proportion of the population consisting of racial minorities, including those of Hispanic origin. Poverty areas are defined as census block groups where 20 percent or more of the population lives in households with incomes below the poverty line.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to identify, assess, and address disproportionate environmental health and safety risks to children from federal actions.

4.14.1 Fort Meade

4.14.1.1 Population Trends

In 2010 Anne Arundel County had a population of 427,239, making it the fourth most populous county in Maryland (fifth if Baltimore City is included). Similar to the national and statewide trend, population growth in Anne Arundel County has slowed since 1990, as population growth from 1990 to 2000 exceeded population growth from 2000 to 2010. Over the 20 year period from 1990 to 2010, Anne Arundel County grew at a quicker rate than Maryland and the nation overall. Table 4-6 shows population in Anne Arundel County, the State of Maryland, and the United States from 1990 to 2010.

Table 4-6: Population, 1990-2010						
Area	**1990**	**2000**	**2010**	**Change 1990 to 2000 (%)**	**Change 2000 to 2010 (%)**	**Change 1990 to 2010 (%)**
Anne Arundel County	427,239	489,656	537,656	14.61	9.80	25.84
Maryland	4,781,468	5,296,486	5,773,552	10.77	9.01	20.75
United States	248,709,873	281,421,906	308,745,538	13.2	9.7	24.1

Sources: Census 1990; Census 2000; Census 2010a

4.14.1.2 Demographics

As shown in Table 4-7, in 2010, the population of Anne Arundel County was 77.9 percent White, 16.9 percent Black or African American, 4.4 percent Asian, 2.5 percent Hispanic or Latino, 1 percent American Indian or Native Alaskan, and 0.2 percent Native Hawaiian or Other Pacific Islander.

Table 4-7: Race, Alone or in Combination[1], 2010						
Area	**White (%)**	**Black or African American (%)**	**Asian (%)**	**Hispanic or Latino (%)**	**American Indian or Alaska Native (%)**	**Native Hawaiian or Other Pacific Islander (%)**
Anne Arundel County	77.9	16.9	4.4	2.5	1	0.2
Maryland	60.4	30.9	6.4	3.8	1	0.2
United States	74.8	6.7	5.6	13.6	1.7	0.4

Source: Census 2010a
Note[1]: Respondents were able to identify themselves as one or more races so percentage totals may exceed 100 percent.

Table 4-8 presents data on educational attainment for Anne Arundel County, the State of Maryland, and the Nation overall, as of 2010. Of the population aged 25 or older, 10 percent of Anne Arundel residents had not completed high school, 26 percent had completed high school but not attended college, 28 percent had attended some college or received an Associate degree, and 36 percent had earned a Bachelor's degree or advanced degree. In general, Anne Arundel County had a higher level of educational attainment in comparison to Maryland and the Nation overall. As of 2010, a higher percentage of the population of Anne Arundel County had completed some college or received an Associate degree than the populations of Maryland and the Nation overall; also, an equal or greater proportion of Anne Arundel County residents had earned a Bachelors or advanced degree. Anne Arundel County had an equal or lower proportion of its population that had either not completed high school or had completed high school but not attended college than Maryland and the Nation overall.

Table 4-8: Educational Attainment[1], 2010			
Level of Education	**Anne Arundel County (%)**	**Maryland (%)**	**United States (%)**
Did not complete high school	10	12	15
High school or equivalent, no college	26	26	29
Some college or Associate degree	28	26	28
Bachelor's degree or advanced degree	36	36	28

Source: Census 2010b
Note[1]: Educational attainment for individuals aged 25 or older.

Table 4-9 provides household characteristics data for Anne Arundel County, the State of Maryland, and the Nation overall. As of 2010, Anne Arundel County had a household population of 508,132 and 195,999 total households. The average household size was 2.6 persons per household, the same as Maryland and the Nation overall. Anne Arundel County had a higher median household income and a higher income per household member than Maryland and the Nation overall. The number of Anne Arundel County households with incomes below the poverty line numbered 9,678, or 4.9 percent of county households, a rate lower than Maryland and the Nation overall.

Table 4-9: Household Characteristics, 2010								
Area	**Population in HH's[1]**	**Total Households**	**Avg. HH Size**	**% Family HH's**	**Median HH Income**	**Income Per HH Member**	**HH's Below Poverty Level**	**% HH's Below Poverty Level**
Anne Arundel County	508,132	195,999	2.6	69.7	$83,456	$32,098	9,678	4.9
Maryland	5,558,493	2,121,047	2.6	67.1	$70,647	$27,172	173,696	8.2
United States	295,968,252	114,235,996	2.6	66.8	$51,914	$20,044	14,865,322	13.0

Source: Census 2010b
Note[1]: By definition, population in households consists of the resident population excluding people living in group quarters (i.e.9 or more people living together who are unrelated to the householder).

4.14.1.3 Employment and Income

Table 4-10 provides labor force statistics for Anne Arundel County, the State of Maryland, and the Nation overall. In 2010, the labor force of Anne Arundel County was 294,513; 273,710 individuals were employed and 20,803 were unemployed implying an unemployment rate of 7.1 percent. The unemployment rate in Anne Arundel County in 2010 was lower than Maryland's (7.8 percent) and lower than the Nation overall (9.6 percent). From 1990 to 2010, the labor force, the number of employed, and the number of unemployed in Anne Arundel expanded at a greater rate than Maryland and the Nation overall; the number of individuals who were employed in Anne Arundel County increased by 23 percent while the number of unemployed increased by 164.5 percent.

Table 4-10: Labor Force, Employment, and Unemployment, 1990, 2000, and 2010					
Area and Timeframe		Labor Force	Employed	Unemployed	Unemployment Rate[1] (%)
Anne Arundel County	1990	230,440	222,575	7,865	3.4
	2000	268,268	260,150	8,118	3
	2010	294,513	273,710	20,803	7.1
	% Change 1990 to 2010	27.8%	23.0%	164.5%	3.7
Maryland	1990	2,582,827	2,465,249	117,578	4.6
	2000	2,811,657	2,711,382	100,275	3.6
	2010	3,057,271	2,817,830	239,441	7.8
	% Change 1990 to 2010	18.4%	14.3%	103.6%	3.2
USA	1990	125,840,000	118,793,000	7,047,000	5.6
	2000	142,583,000	136,891,000	5,692,000	4.0
	2010	153,889,000	139,064,000	14,825,000	9.6
	% Change 1990 to 2010	22%	17%	110%	4.0

Source: BLS 2012a
Note[1]: Changes in the unemployment rate, from 1990 to 2010, are expressed in terms of percentage points.

Table 4-11 shows data on employment by industry in Anne Arundel County for the years 2000 and 2010. In terms of employment, the largest industry in Anne Arundel County in 2010 was the Educational, Health, and Social Services industry, which employed 50,777 people (18.7 percent of industry employment). Other large industries, in terms of employment, in 2010, included the Professional, Scientific, Management, Administrative, and Waste Management Services industry (14.3 percent of employment) and Public Administration (13 percent of industry employment). The fastest growing industries in Anne Arundel County, in terms of employment, from 2000 to 2010, include the Professional, Scientific, Management, Administrative, and Waste Management Services industry (27.9 percent increase in employment from 2000 to 2010), the Agriculture, Forestry, Fishing, Hunting, and Mining industry (25.2 percent increase), and the Educational, Health, and Social Services industry (35 percent increase). From 2000 to 2010, overall industry employment in Anne Arundel County increased by 7.8 percent.

Table 4-11: Employment by Industry, 2000 and 2010					
Industry	2000 Employment	2000 Employment (%)	2010 Employment	2010 Employment (%)	Growth Rate 2000 to 2010 (%)
Agriculture, forestry, fishing, hunting, and mining	575	0.2	720	0.3	25.2
Construction	20,383	8.1	22,157	8.2	8.7
Manufacturing	18,283	7.3	14,884	5.5	-18.6
Wholesale trade	9,403	3.8	8,698	3.2	-7.5
Retail trade	29,295	11.7	28,369	10.5	-3.2
Transportation, warehousing, and utilities	14,251	5.7	12,900	4.8	-9.5
Information	8,906	3.6	6,488	2.4	-27.2
Finance, insurance, real estate, rental, and leasing	16,138	6.4	17,664	6.5	9.5
Professional, scientific, management, administrative,	30,234	12.1	38,684	14.3	27.9

Table 4-11: Employment by Industry, 2000 and 2010					
Industry	**2000 Employment**	**2000 Employment (%)**	**2010 Employment**	**2010 Employment (%)**	**Growth Rate 2000 to 2010 (%)**
and waste management services					
Educational, health, and social services	42,716	17.1	50,777	18.8	18.9
Arts, entertainment, recreation, accommodation, and food services	16,468	6.6	18,336	6.8	11.3
Other services (except public administration)	13,929	5.6	14,879	5.5	6.8
Public administration	29,673	11.9	35,161	13.0	18.5
Total Industry Employment	**250,254**		**269,717**		**7.8**

Sources: Census 2000, 2010b.

Table 4-12 provides data on average annual salary for Anne Arundel County, the State of Maryland, and the Nation overall for 2001 and 2010. Average annual pay in Anne Arundel County, in 2011, was $51,215; average annual pay in Anne Arundel County was lower than the Maryland average ($53,004), but greater than the National average ($45,230). From 2001 to 2010, average annual pay in Anne Arundel County increased 38 percent, a slower rate of increase than Maryland (39 percent increase) but more quickly than the Nation overall (25 percent increase).

Table 4-12: Average Annual Pay[1], 2001-2011			
Area	**2001**	**2011**	**Change (%)**
Anne Arundel County	$37,190	$51,215	37.7
Maryland	$38,253	$53,004	38.6
United States	$36,219	$45,230	24.9

Source: BLS 2012b, BLS 2012c (for USA)
Note[1]: Average annual pay for all employees covered by unemployment insurance.

4.14.1.4 Environmental Justice

Figure 4-10, Appendix A, shows low-income population areas in Anne Arundel County, near the proposed project site. The figure identifies one low-income population area (identified as area 240037508032) where 20 percent or more of the population live below the poverty line. Area 240037508032 had 258 residents, 73 of which lived below the poverty line in 2010 (Census 2010b).

Figure 4-11, Appendix A, shows minority population areas (Census Block Groups with populations that are 50 or more percent minority) in Anne Arundel County, near the proposed project site. Table 4-13 lists the areas. There are 20 minority population areas in Anne Arundel County near the project site. The minority population area that exists within the boundaries of

Fort Meade (area number 240037406031), as of 2010, was populated by a total of 16 people, nine of whom are considered minorities.

Table 4-13: Minority Population Areas in Anne Arundel County Near the Proposed Project Site

Geographic ID	Block Group Description	Total Population	Minority Population	Percentage Minority (%)
240037305051	Block Group 1, Census Tract 7305.05	2,922	1,535	52.5
240037401023	Block Group 3, Census Tract 7401.02	3,701	2,423	65.5
240037401034	Block Group 4, Census Tract 7401.03	1,779	1,184	66.6
240037401041	Block Group 1, Census Tract 7401.04	2,837	1,553	54.7
240037401042	Block Group 2, Census Tract 7401.04	2,025	1,080	53.3
240037401043	Block Group 3, Census Tract 7401.04	2,455	2,125	86.6
240037401051	Block Group 1, Census Tract 7401.05	2,725	2,279	83.6
240037401052	Block Group 2, Census Tract 7401.05	463	396	85.5
240037402012	Block Group 2, Census Tract 7402.01	2,239	1,361	60.8
240037402013	Block Group 3, Census Tract 7402.01	1,704	863	50.6
240037403052	Block Group 2, Census Tract 7403.05	4,454	3,135	70.4
240037403053	Block Group 3, Census Tract 7403.05	2,052	1,688	82.3
240037403054	Block Group 4, Census Tract 7403.05	2,022	1,441	71.3
240037404001	Block Group 1, Census Tract 7404	5,081	3,946	77.7
240037405001	Block Group 1, Census Tract 7405	4,189	2,747	65.6
240037405002	Block Group 2, Census Tract 7405	1,768	1,378	77.9
240037405003	Block Group 3, Census Tract 7405	2,989	1,826	61.1
240037406031	Block Group 1, Census Tract 7406.03	16	9	56.3
240037502012	Block Group 2, Census Tract 7502.01	1,786	1,061	59.4
240037515001	Block Group 1, Census Tract 7515	1,686	1,090	64.7

Source: Census 2010a

4.14.2 Fort Gordon

4.14.2.1 Population Trends

Table 4-14 shows population in Richmond County, Jefferson County, McDuffie County, Columbia County, the State of Georgia, and the United States from 1990 to 2010. Richmond County and McDuffie County have had slow, moderate growth over the last few decades, while Jefferson County has continued to decline in population. Columbia County has experienced significant growth over the last few decades, far exceeding the growth in the State and Nation overall.

Table 4-14: Population, 1990-2010						
Area	**1990**	**2000**	**2010**	**Change 1990 to 2000 (%)**	**% Change 2000 to 2010 (%)**	**Change 1990 to 2010 (%)**
Richmond County	189,719	199,775	200,549	5.30	0.39	5.71
Jefferson County	17,408	17,266	16,930	-0.81	-1.94	-2.74
McDuffie County	20,119	21,231	21,875	5.52	3.03	8.72
Columbia County	66,031	89,288	124,053	35.22	38.93	87.87
Georgia	6,478,216	8,186,453	9,687,653	26.37	18.34	49.54
United States	248,709,873	281,421,906	308,745,538	13.2	9.7	24.1

Sources: Census 1990; Census 2000; Census 2010a

4.14.2.2 Demographics

Table 4-15 shows the demographic profile of Richmond County, Jefferson County, McDuffie County, and Columbia County as well as Georgia and the United States in 2010. The majority of the population of Richmond County and Jefferson County was Black or African American, while McDuffie County and Columbia County were primarily White.

Table 4-15: Race, Alone or in Combination[1], 2010						
Area	**White (%)**	**Black or African American (%)**	**Asian (%)**	**Hispanic or Latino (%)**	**American Indian or Alaska Native (%)**	**Native Hawaiian or Other Pacific Islander (%)**
Richmond County	41.7	55.8	2.3	1.5	1.0	0.3
Jefferson County	42.6	54.4	0.4	3.1	0.1	0.0
McDuffie County	57.2	39.8	0.3	2.2	0.3	0.1
Columbia County	76.5	14.9	3.8	5.0	0.3	0.2
Georgia	60.4	30.9	6.4	3.8	1.0	0.2
United States	74.8	6.7	5.6	13.6	1.7	0.4

Source: Census 2010a
Note[1]: Respondents were able to identify themselves as one or more races so percentage totals may exceed 100 percent.

Table 4-16 presents data on educational attainment for Richmond County, Jefferson County, McDuffie County, Columbia County, the State of Georgia, and the Nation overall, as of 2010. In Columbia County, the highest percentage of the population had obtained a Bachelor's degree or advanced degree, above that of Georgia or the Nation overall.

Table 4-16: Educational Attainment[1], 2010						
Level of Education	**Richmond County (%)**	**Jefferson County (%)**	**McDuffie County (%)**	**Columbia County (%)**	**Georgia (%)**	**United States (%)**
Did not complete high school	18	17	26	9	17	15
High school or equivalent, no college	31	43	34	26	30	29
Some college or Associate degree	31	20	24	30	27	28
Bachelor's degree or advanced degree	20	9	15	34	27	28

Source: Census 2010b
Note[1]: Educational attainment for individuals aged 25 or older.

Table 4-17 provides Household characteristics data for Richmond County, Jefferson County, McDuffie County, Columbia County, the State of Georgia, and the Nation overall. The average household size in each county ranged from 2.5 to 2.8 persons, similar to Georgia and the Nation overall. Richmond County, Jefferson County and McDuffie County all had a lower median household income and a lower income per household member than Georgia and the Nation overall, while Columbia County had a higher median household income and income per household member than Georgia and the Nation overall. McDuffie County has a higher percentage of households below poverty level (23.9 percent), while Columbia County has a relatively low percentage of households below poverty level (6.5 percent).

Table 4-17: Household Characteristics								
Area	**Population in HH's[1]**	**Total Households**	**Avg. HH Size**	**% Family HH's**	**Median HH Income**	**Income Per HH Member**	**HH's Below Poverty Level**	**% HH's Below Poverty Level**
Richmond County	185,894	74,199	2.5	63.0	$37,882	$15,153	15,053	20.3
Jefferson County	16,213	6,227	2.6	69.3	$29,178	$11,222	n/a	n/a
McDuffie County	21,380	8,292	2.6	71.8	$36,841	$14,279	1,990	23.9
Columbia County	120,658	43,070	2.8	78.9	$66,556	$23,770	2,808	6.5
Georgia	9,214,377	3,468,704	2.7	68.4	$49,347	$18,277	566,653	16.3
United States	295,968,252	114,235,996	2.6	66.8	$51,914	$20,044	14,865,322	13.0

Source: Census 2010b
Note[1]: By definition, population in households consists of the resident population excluding people living in group quarters (i.e.9 or more people living together who are unrelated to the householder).

4.14.2.3 Employment and Income

Table 4-18 provides labor force statistics for Richmond County, Jefferson County, McDuffie County, Columbia County, the State of Georgia, and the Nation overall. In 2010, the unemployment rates in Richmond County and Jefferson County were higher than that in Georgia or the Nation overall. McDuffie County and Columbia County had much lower unemployment rates than Georgia and the Nation overall.

Table 4-18: Labor Force, Employment and Unemployment, 2010				
Area	**Labor Force**	**Employed**	**Unemployed**	**Unemployment rate (%)**
Richmond County	87,505	78,036	9,469	10.8
Jefferson County	6,906	5,914	973	14.1
McDuffie County	9,697	8,812	860	8.9
Columbia County	61,939	56,114	3,813	6.4
Georgia	4,694,930	4,213,875	481,055	10.2
United States	153,889,000	139,064,000	14,825,000	9.6

Source: BLS 2012a

Table 4-19 shows data on employment by industry in Richmond County, Jefferson County, McDuffie County, and Columbia County for 2010. In terms of employment, the largest industry in all counties in 2010 was the Educational, Health, and Social Services industry, which employed 20 to 25 percent of the people in each county. Other large industries, in terms of employment, in 2010, included the Retail Trade industry and the Manufacturing industry.

Table 4-19: Employment by Industry, 2010				
Industry	**Richmond County (%)**	**Jefferson County (%)**	**McDuffie County (%)**	**Columbia County (%)**
Agriculture, forestry, fishing, hunting, and mining	0.2	5.9	2.8	0.8
Construction	5.8	6.0	9.5	6.8
Manufacturing	11.2	17.9	16.0	10.8
Wholesale trade	2.2	2.9	4.1	2.1
Retail trade	12.5	10.9	12.0	10.7
Transportation, warehousing, and utilities	5.1	3.6	4.4	5.0
Information	2.1	1.4	0.9	2.3
Finance, insurance, real estate, rental, and leasing	4.0	3.2	4.2	5.6
Professional, scientific, management, administrative, and waste management services	9.4	4.5	9.8	10.5
Educational, health, and social services	25.5	25.1	20.3	24.1
Arts, entertainment, recreation, accommodation, and food services	10.5	6.6	8.9	8.3
Other services (except public administration)	4.9	3.0	2.2	5.9
Public administration	6.5	9.1	4.9	7.1

Sources: Census 2000, 2010b.

Table 4-20 provides data on average annual salary for Richmond County, Jefferson County, McDuffie County, Columbia, the State of Georgia, and the Nation overall for 2001 and 2011. Average annual pay in Richmond County increased at a faster pace than the other counties, Georgia and the Nation overall, increasing 37 percent. Jefferson County, McDuffie County, and

Columbia County all increased at a slower pace than Georgia, but in relatively in line with the Nation overall.

Table 4-20: Average Annual Pay[1], 2001-2011			
Area	**2001**	**2011**	**Change (%)**
Richmond County	$29,431	$40,438	37.4
Jefferson County	$25,326	$31,677	25.1
McDuffie County	$24,108	$29,897	24.0
Columbia County	$26,020	$32,770	25.9
Georgia	$35,136	$45,093	28.3
USA	$36,219	$45,230	24.9

Source: BLS 2012b, BLS 2012c (USA)
Note[1]: Average annual pay for all employees covered by unemployment insurance.

4.14.2.4 Environmental Justice

Figure 4-12, Appendix A, shows low-income population areas in Richmond County near the project site. Direct, environmental impacts related to construction activity would occur in Richmond County, therefore, only those low-income populations near the proposed site are included. Table 4-21 lists the low-income population areas presented in that Figure. There are nine low-income population areas in Richmond County near the proposed project site. The geographic area with the highest percentage of low-income individuals (area number 132450105042) had a total population of 747, as of 2010, 420 of whom were living below the poverty line.

Table 4-21: Low-income Population Areas in Richmond County Near the proposed Project Site				
Geographic ID	**Block Group Description**	**Total Population**	**Population with Income Below Poverty Line**	**Percentage Below Poverty Line**
132450105042	Block Group 2, Census Tract 105.04	747	420	56.2
132450105123	Block Group 3, Census Tract 105.12	439	137	31.2
132450107081	Block Group 1, Census Tract 107.08	455	126	27.7
132450107082	Block Group 2, Census Tract 107.08	538	114	21.2
132450107083	Block Group 3, Census Tract 107.08	601	141	23.5
132450107101	Block Group 1, Census Tract 107.10	397	98	24.7
132450107112	Block Group 2, Census Tract 107.11	423	157	37.1
132450108004	Block Group 4, Census Tract 108	191	45	23.6
132450109042	Block Group 2, Census Tract 109.04	653	198	30.3

Source: Census 2010b

Figure 4-13, Appendix A, shows minority population areas in Richmond County, near the proposed project site. Table 4-22 lists the low-income population areas presented in that Figure. There are 19 minority population areas in Richmond County near the project site. The minority population areas listed in Table 4-22 sit to the north and east of the proposed project site.

Table 4-22: Minority population Areas in Richmond County Near the Proposed Project Site				
Geographic ID	**Block Group Description**	**Total Population**	**Minority Population**	**Percentage Minority**
132450102041	Block Group 1, Census Tract 102.04	5,023	3,644	72.5
132450102044	Block Group 4, Census Tract 102.04	2,639	1,331	50.4
132450105042	Block Group 2, Census Tract 105.04	2,875	2,796	97.3
132450105043	Block Group 3, Census Tract 105.04	1,190	1,121	94.2
132450105044	Block Group 4, Census Tract 105.04	1,409	942	66.9
132450105121	Block Group 1, Census Tract 105.12	1,752	1,525	87.0
132450105122	Block Group 2, Census Tract 105.12	2,495	2,365	94.8
132450105123	Block Group 3, Census Tract 105.12	1,743	1,609	92.3
132450107071	Block Group 1, Census Tract 107.07	1,963	1,724	87.8
132450107072	Block Group 2, Census Tract 107.07	746	599	80.3
132450107081	Block Group 1, Census Tract 107.08	1,894	1,643	86.7
132450107082	Block Group 2, Census Tract 107.08	1,748	1,621	92.7
132450107083	Block Group 3, Census Tract 107.08	2,187	1,904	87.1
132450107101	Block Group 1, Census Tract 107.10	1,874	1,377	73.5
132450107111	Block Group 1, Census Tract 107.11	1,878	1,167	62.1
132450107112	Block Group 2, Census Tract 107.11	1,858	1,510	81.3
132450107121	Block Group 1, Census Tract 107.12	2,386	1,966	82.4
132450107122	Block Group 2, Census Tract 107.12	2,773	2,336	84.2
132450107123	Block Group 3, Census Tract 107.12	2,025	1,989	98.2

Source: Census 2010a

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5.0 ENVIRONMENTAL CONSEQUENCES

This section identifies and evaluates the anticipated environmental impacts associated with implementing the seven proposed action alternatives, as well as the No Action alternative. To reiterate, the seven action alternatives are summarized as follows:

- Alternative A: Construct a new 179,056-SF facility at Fort Meade within an approximately 18-acre site at the northwest corner of Mapes Road and Taylor Avenue.

- Alternative B: Construct a new facility within approximately 18 acres of the East Campus area located within the National Security Agency's fenceline and use Building 8605 for a portion of the administrative and logistics staff.

- Alternative C: Construct a new 179,056-SF facility at Fort Gordon in a 16-acre site southwest of the intersection of 110th Avenue and 15th Street.

- Alternative D: Renovate several buildings within Back Hall Campus between 22nd Street to 25th Street and Chamberlain Avenue to Barnes Avenue and construct an additional 47,000-SF facility. Approximately 37 acres are contained within this area.

- Alternative E: Construct a wing on Whitelaw Hall for the entire ARCYBER Command as part of the planned Whitelaw Hall Phase 2 development. This alternative would impact approximately 6 acres.

- Alternative F: Construct a new 179,056-SF facility on Kilbourne Street to house the entire ARCYBER Command. Parking and access would also be provided at this approximately 36-acre location.

- Alternative G: Construct a new 179,056-SF facility on 19th Street to house the entire ARCYBER Command. Parking and access would also be provided at this approximately 34-acre location.

Under the No Action alternative, ARCYBER would not establish or operate a centralized Command and Control Facility.

The method used for evaluating the overall importance of impacts is based on the following four fundamental criteria:

1. Nature (beneficial or adverse, and direct or indirect);
2. Duration (temporary or permanent);
3. Areal extent (regional, local, or isolated); and
4. Intensity (low, moderate, or high).

Nature of Impact. The nature of the impact can be described as positive (beneficial) or negative (adverse). Positive impacts enhance the quality or access to a resource, while negative impacts

degrade the quality or limit access the resource. Impacts are also described as direct or indirect. A direct impact is as an immediate result of an activity. An indirect impact arises from a project activity at the secondary level.

Duration of Impact. The duration of an impact can be temporary or permanent.

Areal Extent of Impact. The areal extent of an impact refers to its area of influence and can be regional, local, or isolated to a particularly small and well defined area. An impact of regional extent exerts an influence far beyond the surroundings of the project area. The local area of influence refers to the communities located near Fort Meade or Fort Gordon that could be affected by the project. An isolated impact is limited in extent to a small, readily defined area.

Intensity of Impact. The intensity of an impact concerns the scale or size of the impact on a resource. Intensity is evaluated as negligible, minor, moderate, or significant. A description of each measure of intensity is as follows:

- *Negligible.* This term indicates that the environmental impact is barely perceptible or measurable, remains confined to a single location, and will not result in a sustained recovery time for the resource impacted (days to months).
- *Minor.* This term indicates that the environmental impact is readily perceptible and measurable; however, the impact will be temporary and the resource should recover in a relatively short period of time.
- *Moderate.* This term indicates that the environmental impact is perceptible and measurable, and may not remain localized, impacting areas adjacent to the proposed action. Under the impact, recovery of the resource may require several years or decades.
- *Significant.* This term indicates significant impacts would occur. Under a significant impact, a resource may not recover and mitigation measures are considered to minimize the impact.

This section is organized by resource area following the same sequence as in the preceding Section 4.0. However, this section also includes a discussion of other environmental effects, including cumulative impacts and irretrievable commitment of resources.

5.1 LAND USE

Factors considered in evaluating land use impacts include the potential for the Proposed Action to be incompatible with surrounding land uses; result in a change of land use that would degrade mission-essential activities; or be inconsistent or in conflict with the environmental goals, objectives, or guidelines of a community or county comprehensive plan for the affected area.

5.1.1 Alternative A

Implementation of Alternative A is not expected to significantly impact land use surrounding Fort Meade. Some minor long-term growth or change in existing land use in the Fort Meade vicinity would be expected. While the action would bring approximately 1,300 more workers to the installation, the nearby communities are capable of providing the housing and support for the increase in personnel.

Short-term minor adverse impacts on land use would be expected due to the presence of construction vehicles and disturbances related to construction activities. Implementation of Alternative A would not result in any changes to land use, as the project would occur within areas already designated as Professional/Institutional. In addition, all construction would occur within the Installation boundaries. Such changes are not expected to degrade the mission-essential activities supporting Fort Meade. In addition, Alternative A would not introduce incompatibilities with adjacent land use areas. Therefore, implementation of Alternative A would be consistent with existing land uses, management, and ownership, and conform to plans and regulations. No significant long-term impacts to land use would occur from implementation of Alternative A.

5.1.2 Alternative B

Implementation of Alternative B is not expected to significantly impact land use surrounding Fort Meade. Some minor long-term growth or change in existing land use in the Fort Meade vicinity would be expected. While the action would bring approximately 1,300 more workers to the installation, the nearby communities are capable of providing the housing and support for the increase in personnel.

Short-term minor adverse impacts on land use would be expected due to the presence of construction vehicles and disturbances related to construction activities. Implementation of Alternative B would not result in any changes to existing land use, as the proposed new construction project would occur within areas already designated as Professional/Institutional. The use of Building 8605, although in a designated Troop area, would not change from its existing use. In addition, all construction would occur within the Installation boundaries. Such changes are not expected to degrade the mission-essential activities supporting Fort Meade. Alternative B would not introduce incompatibilities with adjacent land use areas. Therefore, implementation of Alternative B would be consistent with existing land uses, management, and ownership, and conform to plans and regulations. No significant long-term impacts to land use would occur from implementation of Alternative B.

5.1.3 Alternative C

Implementation of Alternative C is not expected to significantly impact land use surrounding Fort Gordon. Some minor long-term growth or change in existing land use in the Fort Gordon vicinity would be expected. While the action would bring approximately 1,500 workers to the installation, the nearby communities are capable of providing the housing and support for the increase in personnel.

Short-term minor adverse impacts on land use would be expected due to the presence of construction vehicles and disturbances related to construction activities. This alternative would occur within the cantonment area within Fort Gordon. The area proposed by this alternative has been identified by Fort Gordon as buildable space in the Real Property Master Plan. Therefore, implementation of Alternative C would be consistent with existing land uses, management, and ownership, and conform to plans and regulations. No significant long-term impacts to land use would occur as a result of this alternative.

5.1.4 Alternative D

Implementation of Alternative D is not expected to significantly impact land use surrounding Fort Gordon. Some minor long-term growth or change in existing land use in the Fort Gordon vicinity would be expected. While the action would bring approximately 1,500 workers to the installation, the nearby communities are capable of providing the housing and support for the increase in personnel.

Short-term minor adverse impacts on land use would be expected due to the presence of construction vehicles and disturbances related to construction activities. Implementation of Alternative D would not result in any changes to land use at Fort Gordon, as the project would occur within a previously developed area and would remain consistent with existing land use. In addition, all construction would occur within the Installation boundaries and the alternative would not introduce incompatibilities with adjacent land use areas. Therefore, implementation of Alternative D would be consistent with existing land uses, management, and ownership, and conform to plans and regulations. No significant long-term impacts to land use would occur from implementation of Alternative D.

5.1.5 Alternative E

Implementation of Alternative E is not expected to significantly impact land use surrounding Fort Gordon. Some minor long-term growth or change in existing land use in the Fort Gordon vicinity would be expected. While the action would bring approximately 1,500 workers to the installation, the nearby communities are capable of providing the housing and support for the increase in personnel.

This alternative would occur within the cantonment area within Fort Gordon. The area proposed by this alternative has been identified by Fort Gordon as buildable space in the Real Property Master Plan. Therefore, implementation of Alternative E would be consistent with existing land uses, management, and ownership, and conform to plans and regulations. Short-term minor adverse impacts on land use would be expected due to the presence of construction vehicles and disturbances related to construction activities. No long-term impacts would be expected.

5.1.6 Alternative F

Implementation of Alternative F is not expected to significantly impact land use surrounding Fort Gordon. Some minor long-term growth or change in existing land use in the Fort Gordon vicinity would be expected. While the action would bring approximately 1,500 workers to the installation, the nearby communities are capable of providing the housing and support for the increase in personnel.

This alternative would occur within the cantonment area within Fort Gordon. The area proposed by this alternative has been identified by Fort Gordon as buildable space in the Real Property Master Plan. Therefore, implementation of Alternative F would be consistent with existing land uses, management, and ownership, and conform to plans and regulations. Short-term minor adverse impacts on land use would be expected due to the presence of construction vehicles and disturbances related to construction activities. No long-term impacts would be expected.

5.1.7 Alternative G

Implementation of Alternative G is not expected to significantly impact land use surrounding Fort Gordon. Some minor long-term growth or change in existing land use in the Fort Gordon vicinity would be expected. While the action would bring approximately 1,500 workers to the installation, the nearby communities are capable of providing the housing and support for the increase in personnel.

This alternative would occur within the cantonment area within Fort Gordon. The area proposed by this alternative has been identified by Fort Gordon as buildable space in the Real Property Master Plan. Therefore, implementation of Alternative G would be consistent with existing land uses, management, and ownership, and conform to plans and regulations. Short-term minor adverse impacts on land use would be expected due to the presence of construction vehicles and disturbances related to construction activities. No long-term impacts would be expected.

5.1.8 No Action

Implementation of the No Action alternative would not alter the existing land use on either installation.

5.2 VISUAL RESOURCES AND AESTHETICS

Visual resources include the natural and manmade physical features that give a particular landscape its aesthetic character and value. An impact would be considered significant if changes to the physical features diminish the aesthetic character and value of the landscape or public viewing opportunities are eliminated.

5.2.1 Alternative A

Short-term minor adverse impacts on visual aesthetics would be expected due to the presence of construction vehicles and disturbances related to construction activities. Implementation of Alternative A would change the visual characteristics of the Installation primarily as a result of construction of the new facility and parking area. However, the new construction would be designed to incorporate existing trees and vegetated areas where possible. Views of the Installation are limited to personnel, contractors, and civilians working on or visiting the Installation. These viewers are cognizant of the missions that occur at and near Fort Meade. Moreover, Fort Meade is not located within any sensitive viewsheds. Therefore, long-term impacts to visual resources from implementation of Alternative A would be minor.

5.2.2 Alternative B

Short-term minor adverse impacts on visual aesthetics would be expected due to the presence of construction vehicles and disturbances related to construction activities. Implementation of Alternative B would change the visual characteristics of the Installation primarily as a result of construction of a new building and associated parking areas; no change is visual characteristic would occur with interior renovations of Building 8605. However, the new construction would be designed to incorporate existing trees and vegetated areas where possible. Views of the

Installation are limited to personnel, contractors, and civilians working on or visiting the Installation. These viewers are cognizant of the missions that occur at and near Fort Meade. Moreover, Fort Meade is not located within any sensitive viewsheds. Therefore, long-term impacts to visual resources from implementation of Alternative B would be minor.

5.2.3 Alternative C

Short-term minor adverse impacts on visual aesthetics would be expected due to the presence of construction vehicles and disturbances related to construction activities. Implementation of Alternative C would change the visual characteristics of the Installation primarily as a result of construction. However, the new construction would be designed to incorporate existing trees and vegetated areas where possible. Views of the Installation are limited to personnel, contractors, and civilians working on or visiting the Installation. These viewers are cognizant of the missions that occur at and near Fort Gordon. Moreover, Fort Gordon is not located within any sensitive viewsheds. Therefore, long-term impacts to visual resources from implementation of Alternative C would be minor.

5.2.4 Alternative D

Short-term minor adverse impacts on visual aesthetics would be expected due to the presence of construction vehicles and disturbances related to construction activities. Only minor long-term impacts to the aesthetics and visual resources would result from implementation of Alternative D as implementation of this alternative would require renovation of buildings as well as additional construction within a previously developed area.

5.2.5 Alternative E

Short-term minor adverse impacts on visual aesthetics would be expected due to the presence of construction vehicles and disturbances related to construction activities. Implementation of Alternative E focuses on constructing a wing to an existing building. Construction would require the contractor to match the exterior visual appearance of Whitelaw Hall. In addition, views of the Installation are limited to personnel, contractors, and civilians working on or visiting the Installation. These viewers are cognizant of the missions that occur at and near Fort Gordon. Moreover, Fort Gordon is not located within any sensitive viewsheds. Therefore, long-term impacts to visual resources from implementation of Alternative E would be minor.

5.2.6 Alternative F

Short-term minor adverse impacts on visual aesthetics would be expected due to the presence of construction vehicles and disturbances related to construction activities. Implementation of Alternative F would change the visual characteristics of the Installation primarily as a result of construction. However, the new construction would be designed to incorporate existing trees and vegetated areas where possible. Views of the Installation are limited to personnel, contractors, and civilians working on or visiting the Installation. These viewers are cognizant of the missions that occur at and near Fort Gordon. Moreover, Fort Gordon is not located within any sensitive viewsheds. Therefore, long-term impacts to visual resources from implementation of Alternative F would be minor.

5.2.7 Alternative G

Short-term minor adverse impacts on visual aesthetics would be expected due to the presence of construction vehicles and disturbances related to construction activities. Implementation of Alternative G would change the visual characteristics of the Installation primarily as a result of construction. However, the new construction would be designed to incorporate existing trees and vegetated areas where possible. Views of the Installation are limited to personnel, contractors, and civilians working on or visiting the Installation. These viewers are cognizant of the missions that occur at and near Fort Gordon. Moreover, Fort Gordon is not located within any sensitive viewsheds. Therefore, long-term impacts to visual resources from implementation of Alternative G would be minor.

5.2.8 No Action

Implementation of the No Action alternative would not alter the existing visual or aesthetics values at the installations.

5.3 AIR QUALITY

Emission thresholds associated with federal CAA conformity requirements are the primary means of assessing the significance of potential air quality impacts associated with implementation of a Proposed Action under NEPA. A formal conformity determination is required for federal actions occurring in nonattainment or maintenance areas when the total direct and indirect stationary and mobile source emissions of nonattainment pollutants or their precursors exceed *de minimis* thresholds. Significant air quality impacts would occur if implementation of an action alternative would directly or indirectly:

- Expose people to localized (as opposed to regional) air pollutant concentrations that violate state or federal ambient air quality standards;
- Cause a net increase in pollutant or pollutant precursor emissions that exceeds relevant emission significance thresholds (such as CAA conformity *de minimis* levels or the numerical values of major source thresholds for nonattainment pollutants); or,
- Conflict with adopted air quality management plan policies or programs.

Federal, state, and local air pollution standards and regulations set the criteria for determining the significance of air quality impacts. Impacts would also be potentially significant if estimated emissions would exceed the thresholds that trigger a conformity determination under Section 176(c) of the CAA of 1990.

5.3.1 Alternative A

Under Alternative A, potential air quality impacts from proposed construction activities would occur from: 1) clearance combustion emissions due to the use of fossil fuel-powered equipment and vehicles, and 2) PM_{10} emissions during earth-moving activities. Construction vehicles used would consist of a mixture of graders/dozers, loaders, trucks, backhoes, water trucks, and other vehicles and equipment typically associated with road and building construction activities.

Appendix E contains a list of estimated equipment required for construction, estimates of workforce requirements, along with the emission calculations for all construction activities under Alternative A.

Annual emissions resulting from project activities have been estimated using data presented in Chapter 3, general air quality assumptions, and emission factors published in USEPA AP-42 for heavy construction equipment and gasoline and diesel powered engines (USEPA, 2009b).

With the projected growth of the Command, the Command and Control Facility would be capable of supporting a workforce of approximately 1,500 personnel. Approximately 200 personnel are already located at the installation in other facilities; therefore, this air quality analysis estimates vehicle emissions of 1,300 additional personnel to the installation. Table 5-1 presents the estimated construction emissions due to implementation of Alternative A. Estimated annual emissions would be below the *de minimis* levels for CAA conformity; therefore, a formal conformity determination under Section 176(c) of the CAA would not be required. The U.S. Army has prepared a Record of Non-Applicability (RONA) for CAA conformity (refer to Appendix E of this EA). The proposed emissions are from construction and vehicle emissions associated with the additional personnel, these are mobile source emissions and are not regulated the same as the installation's permitted emissions (boilers, gas tanks, etc.). Even so, the proposed emissions are so small there would be no appreciable increase in emissions at the installation. The total annual air emissions at the installation would not exceed the existing regulatory threshold (synthetic minor permit or GHG permit thresholds).

The operations within the proposed facilities would require multiple megawatts of backup generator power in order to maintain the operations in the event of a significant power loss in addition to standard life safety generators. The type of generators and the total number of generators needed would be dependent on a number of factors that are not finalized at this time to include the design of the facilities, number of personnel in each facility, and the operations that would require backup power. Operating the emergency generators would contribute air emissions (CO, VOCs, and NO_x), however, these emissions would be temporary, localized, and would not contribute substantial emissions. AR Cyber would coordinate and obtain the appropriate permit with regulators and the host command once this level of detail is known.

Table 5-1: Estimated Construction and Operational Emissions at Fort Meade, Maryland

Estimated Emissions	Emissions (tons)					
	CO[2]	**VOCs[1]**	**NO_x[1]**	**SO_x[2]**	**PM_{10}[2]**	**$PM_{2.5}$[1]**
Alternative A Construction Emissions	1.60	0.38	3.11	0.00	0.27	0.18
Annual Operational Emissions: 1,300 additional personnel (tons/year)	36.89	2.01	3.38	0.05	0.39	0.21
de minimis/New Source Review threshold	250	50	100	250	250	100
Exceeds *de minimis* threshold?	No	No	No	No	No	No

Note: [1] The ROI is a nonattainment area for the 8-hour O_3 NAAQS (VOCs and NO_x are precursors to the formation of O_3), and is in nonattainment of the $PM_{2.5}$ NAAQS. *de minimis* thresholds are defined in 40 CFR 93 Section 153. VOC *de minimis* established for nonattainment areas located in an O_3 transport area.

[2] *de minimis* thresholds are not applicable to NAAQS attainment areas. New Source Review thresholds are 250 tons per year of any pollutant.

Sources: USEPA, 2012b.

Fugitive dust generated from construction activities and vehicle travel on unpaved areas would temporarily affect local air quality. However, no long-term increases in fugitive dust would occur. Particulate matter emissions would be moderated through dust reduction measures (e.g., watering of exposed soils), thereby minimizing the total quantity of fugitive dust emitted during construction activities. In addition, project construction equipment would emit minor amounts of hazardous air pollutants (HAPs) that could potentially impact public health. The main sources of HAPs would occur from the combustion of diesel fuel. Construction would be temporary and minor and HAPs emissions could be further moderated through implementation of BMPs such as restricting excessive idling, adherence to equipment maintenance programs, use of particulate filters, and use of ultra-low sulfur diesel fuel if applicable.

Greenhouse Gas Emissions

Table 5-2 summarizes the annual GHG emissions associated with the Alternative A. Appendix E presents an estimate of GHG emissions generated by Alternative A. Emissions would be below the 25,000 metric tons of CO_2e level proposed in the draft NEPA guidance by the CEQ (CEQ, 2010). Annual emissions would be minor and less than significant, and would disperse quickly within the project area. In addition, potential effects of GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change.

Table 5-2: Estimated GHG Emissions at Fort Meade, Maryland

Scenario/Activity	Metric Tons per Year[1]			
	CO_2	CH_4	N_2O	CO_2e
Alternative A Construction Emissions	303.37	0.03	0.27	387
Annual Operational Emissions: 1,300 additional personnel (metric tons/year)	4,120.28	0.29	0.29	4,217
Draft NEPA Threshold [2]				25,000

Notes: [1]CO_2e = (CO_2 * 1) + (CH4* 21) + (N2O * 310)
Source: [2]CEQ, 2010.

5.3.2 Alternative B

Construction and operation (work force) emissions for this campus were previously evaluated in the East Campus EIS at Fort Meade, Maryland. Under Alternative B, two buildings within this campus would be used for the Command. No significant impacts were determined (NSA, 2010).

5.3.3 Alternative C

Potential air quality impacts from proposed construction activities would occur from: 1) clearance combustion emissions due to the use of fossil fuel-powered equipment and vehicles, and 2) PM_{10} emissions during earth-moving activities. Construction vehicles used would consist of a mixture of graders/dozers, loaders, trucks, backhoes, water trucks, and other vehicles and equipment typically associated with road and building construction activities. Appendix E contains a list of estimated equipment required for construction, estimates of workforce requirements, along with the emission calculations for all construction activities under each alternative.

Emissions resulting from project activities have been estimated using data presented in Chapter 3, general air quality assumptions, and emission factors published in USEPA AP-42 for heavy construction equipment and gasoline and diesel powered engines (USEPA, 2009b).

The operations within the proposed facilities would require multiple megawatts of backup generator power in order to maintain the operations in the event of a significant power loss in addition to standard life safety generators. The type of generators and the total number of generators needed would be dependent on a number of factors that are not finalized at this time to include the design of the facilities, number of personnel in each facility, and the operations that would require backup power. Operating the emergency generators would contribute air emissions (CO, VOCs, and NO_x), however, these emissions would be temporary, localized, and would not contribute substantial emissions. AR Cyber would coordinate and obtain the appropriate permit with regulators and the host command once this level of detail is known.

Emissions of pollutants for which an area is in attainment are exempt from conformity analyses and *de minimis* levels for CAA conformity do not apply. Since the ROI is in attainment for all criteria pollutants, a formal conformity determination under Section 176(c) of the CAA, or a RONA for CAA conformity would not be required. However, emissions have been estimated for Alternative C at Fort Gordon and are compared with NSR thresholds for planning purposes (Table 5-3). As shown in Table 5-3, estimated annual emissions from the implementation of Alternative C would be below the NSR thresholds. Therefore, while implementation of Alternative C would result in air emissions, the emissions would be minor and would not result in significant impacts to air quality.

Table 5-3: Estimated Construction and Operational Emissions at Fort Gordon, Georgia

Estimated Emissions	Emissions (tons)					
	CO	VOCs	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Alternative C Construction Emissions	1.60	0.38	3.11	0.00	0.27	0.18
Alternative D Construction Emissions	1.34	0.32	2.61	0.00	0.23	0.15
Alternative E Construction Emissions	0.90	0.21	1.74	0.00	0.15	0.10
Alternative F Construction Emissions	1.60	0.38	3.11	0.00	0.27	0.18
Alternative G Construction Emissions	1.60	0.38	3.11	0.00	0.27	0.18
Annual Operational Emissions: 1,500 additional personnel (tons/year)	42.56	2.32	3.90	0.05	0.45	0.24
de minimis/New Source Review threshold[1]	250	250	250	250	250	250
Exceeds New Source Review threshold?	No	No	No	No	No	No

Note: [1]The ROI is in attainment of all criteria pollutants. *de minimis* thresholds are not applicable to NAAQS attainment areas. New Source Review thresholds are 250 tons per year of any pollutant.
Sources: USEPA, 2012b.

Fugitive dust generated from construction activities and vehicle travel on unpaved areas would temporarily affect local air quality. However, no long-term increases in fugitive dust would occur. Particulate matter emissions would be moderated through dust reduction measures (e.g., watering of exposed soils), thereby minimizing the total quantity of fugitive dust emitted during construction activities. In addition, project construction equipment would emit minor amounts of HAPs that could potentially impact public health. The main sources of HAPs would occur from the combustion of diesel fuel. Construction would be temporary and minor and HAPs emissions could be further moderated through implementation of BMPs such as restricting excessive idling,

adherence to equipment maintenance programs, use of particulate filters, and use of ultra-low sulfur diesel fuel if applicable.

Greenhouse Gas Emissions

Table 5-4 summarizes the annual GHG emissions associated with Alternative C. Appendix E presents an estimate of GHG emissions generated by the project alternatives. Emissions under Alternative C would be below the 25,000 metric tons of CO_2e level proposed in the draft NEPA guidance by the CEQ (CEQ, 2010). Annual emissions would be minor and less than significant, and would disperse quickly within the project area. In addition, potential effects of GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change.

Table 5-4: Estimated GHG Emissions at Fort Gordon, Georgia

Scenario/Activity	Metric Tons per Year [1]			
	CO_2	CH_4	N_2O	CO_2e
Alternative C Construction Emissions	303.37	0.03	0.27	387
Alternative D Construction Emissions	254.83	0.03	0.22	325
Alternative E Construction Emissions	169.89	0.02	0.15	217
Alternative F Construction Emissions	303.37	0.03	0.27	387
Alternative G Construction Emissions	303.37	0.03	0.27	387
Annual Operational Emissions: 1,500 additional personnel (metric tons/year)	4,754.17	0.33	0.34	4,865
Draft NEPA Threshold [2]				25,000

Notes: [1]CO_2e = (CO_2 * 1) + (CH4* 21) + (N2O * 310)
Source: [2]CEQ, 2010.

5.3.4 Alternative D

As shown in Table 5-3, estimated annual emissions from the implementation of Alternative D would be below the NSR thresholds. Therefore, while implementation of Alternative D would result in air emissions, the emissions would be minor and would not result in significant impacts to air quality. Table 5-4 summarizes the annual GHG emissions associated with Alternative D. Appendix E presents an estimate of GHG emissions generated by the project alternatives. Emissions under Alternative D would be below the 25,000 metric tons of CO_2e level proposed in the draft NEPA guidance by the CEQ (CEQ, 2010). Annual emissions would be minor and less than significant, and would disperse quickly within the project area.

5.3.5 Alternative E

As shown in Table 5-3, estimated annual emissions from the implementation of Alternative E would be below the NSR thresholds. Therefore, while implementation of Alternative E would result in air emissions, the emissions would be minor and would not result in significant impacts to air quality. Table 5-4 summarizes the annual GHG emissions associated with Alternative E. Appendix E presents an estimate of GHG emissions generated by the project alternatives. Emissions under Alternative E would be below the 25,000 metric tons of CO_2e level proposed in the draft NEPA guidance by the CEQ (CEQ, 2010). Annual emissions would be minor and less than significant, and would disperse quickly within the project area.

5.3.6 Alternative F

As shown in Table 5-3, estimated annual emissions from the implementation of Alternative F would be below the NSR thresholds. Therefore, while implementation of Alternative F would result in air emissions, the emissions would be minor and would not result in significant impacts to air quality. Table 5-4 summarizes the annual GHG emissions associated with Alternative F. Appendix E presents an estimate of GHG emissions generated by the project alternatives. Emissions under Alternative F would be below the 25,000 metric tons of CO_2e level proposed in the draft NEPA guidance by the CEQ (CEQ, 2010). Annual emissions would be minor and less than significant, and would disperse quickly within the project area.

5.3.7 Alternative G

As shown in Table 5-3, estimated annual emissions from the implementation of Alternative G would be below the NSR thresholds. Therefore, while implementation of Alternative G would result in air emissions, the emissions would be minor and would not result in significant impacts to air quality. Table 5-4 summarizes the annual GHG emissions associated with Alternative G. Appendix E presents an estimate of GHG emissions generated by the project alternatives. Emissions under Alternative G would be below the 25,000 metric tons of CO_2e level proposed in the draft NEPA guidance by the CEQ (CEQ, 2010). Annual emissions would be minor and less than significant, and would disperse quickly within the project area.

5.3.8 No Action

Under the No-Action Alternative, the proposed ARCYBER Command and Control Facility would not be constructed and existing conditions at Fort Meade and Fort Gordon would remain unchanged. Therefore, no significant impacts to air quality would occur.

5.4 NOISE

Impacts to noise would be considered significant if it is determined the noise would rise to such a level to be incompatible with adjacent noise receptors or increase the number of people annoyed by the heightened noise levels both on- and off-Post. The USEPA categorizes construction noise as an intermittent noise source (USEPA, 1973).

Noise from construction activities varies with the types of equipment used and the duration of use. Stationary sources of construction equipment include pumps, generators, and compressors; these sources are considered nonimpact-type noises. Stationary sources of construction equipment considered impact-type noises include pile drivers, jackhammers, pavement breakers, and blasting operations. Mobile sources include dozers, scrapers, graders, etc. Table 5-5 provides a representation of construction noise levels associated new construction. Commonly, use of heavy equipment occurs sporadically throughout the daytime hours. Under any of the action alternatives, noise levels that would be generated during the earth moving phase (site clearing activities involving pieces of equipment) could range from 73 to 101 dBA when measured 50 feet from the respective piece of equipment.

Table 5-5: Typical Noise levels of Construction Equipment (noise Level in dBA at 50 Feet)	
Construction Vehicle Type	**dBA**
Bulldozers	80
Backhoe	72-93
Bobcat	72-93
Jack Hammer	81-98
Crane	75-77
Pick-Up Truck	83-94
Dump Truck	83-94

Source: USEPA, 1986

5.4.1 Alternative A

Noise impacts from construction-related activities are expected to be minor because construction would occur during normal business hours and the equipment would be used for a short period of time. Therefore, while there may be a minor increase in the number of people annoyed by construction noise, the impact would not be significant with the implementation of Alternative A.

With the exception of possible occasional emergency generator usage, there would not be any operational noise associated with the new facilities. Long-term impacts would be expected from the increase in vehicular traffic. Given the large volume of traffic accessing Fort Meade, these impacts would be considered negligible.

5.4.2 Alternative B

Noise Impacts would be similar to those described for Alternative A. There would be short-term minor noise impacts associated with the construction of the facility. There would be negligible long-term noise impacts associated with the operation of the new facilities.

5.4.3 Alternative C

Temporary noise from construction equipment could impact military and civilian personnel working, using recreation areas on-Post, and residents in military housing. However, this increase would be short-term and would occur during normal working hours. Because Fort Gordon is a military training facility, noise from small arms, artillery, and vehicles is heard regularly. It is not anticipated that the short-term increase in ambient noise levels from implementation of Alternative C would cause significant adverse impacts on the surrounding population for reasons described above for Alternative A. Long-term noise impacts associated with an increase in traffic to the installation would be expected. However these impacts would be considered negligible as the installation already receives a large volume of traffic. Therefore, there would be no significant impacts with the implementation of Alternative C.

5.4.4 Alternative D

Noise Impacts would be similar to those described for Alternative C; there would be short-term minor impacts and no significant long-term impacts with the implementation of Alternative D.

5.4.5 Alternative E

Noise Impacts would be similar to those described for Alternative C; there would be short-term minor impacts and no significant long-term impacts with the implementation of Alternative E.

5.4.6 Alternative F

Noise Impacts would be similar to those described for Alternative C; there would be short-term minor impacts and no significant long-term impacts with the implementation of Alternative F.

5.4.7 Alternative G

Noise Impacts would be similar to those described for Alternative C; there would be short-term minor impacts and no significant long-term impacts with the implementation of Alternative G.

5.4.8 No Action

The No Action alternative would not be expected to change the noise levels that are generated at Fort Meade or at Fort Gordon.

5.5 GEOLOGY AND SOILS

With exception of Alternative D, the Proposed Action would result in localized changes to topography at construction sites as a result of earthmoving activities (clearing and grading) associated with site preparation (all construction would occur in previously disturbed areas under Alternative D). These changes would not significantly impact geology and this section will only analyze impacts to soils.

Impacts to soils would be considered significant if impacts result in substantial soil erosion or loss of topsoil which would result in damage to waterways, ground instability, or impact to animal or human habitats. Under all alternatives, there would be no impacts to Prime and Unique Farmland soils.

5.5.1 Alternative A

The implementation of the Proposed Action is expected to have short-term and long-term minor adverse impacts on approximately 18 acres of previously disturbed soils at Fort Meade. Soil disturbance in the form of excavation, grading, earthmoving, and compaction would result from new construction activities. As a result, soils would be compacted, soil layer structure would be disturbed and modified, and soils would be exposed, increasing the overall potential for erosion at the site. Soil productivity, (i.e., the capacity of the soil to produce vegetative biomass), would decline in disturbed areas and be completely eliminated for those areas within the footprint of

building structures, and parking facilities. Adverse impacts to soils from the proposed construction activities would be minimized by proper construction management and planning, and the use of appropriate site-specific BMPs for controlling runoff, erosion, and sedimentation during construction activities. Standard erosion and sedimentation control techniques include using vegetative and structural protective covers (e.g., permanent seeding, groundcover), sediment barriers (e.g., straw bales, silt fence, brush), constructing water conveyances (e.g., slope drains, check dam inlet, and outlet protection), and repairing bare and slightly eroded areas quickly.

Projects that disturb one or more acres of earth must apply to MDE for either a General or Individual Permit for Stormwater Associated with Construction Activity. In addition, an Environmental Site Design (ESD) is required for any project that exceeds 5,000 SF in size. These plans must be reviewed and approved by MDE, Water Management Administration. Areas disturbed within the equipment staging area would be reseeded, replanted, and/or re-sodded following construction activities, which would decrease the overall erosion potential of the site and improve soil productivity.

EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, requires that all new construction comply with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* (Guiding Principles). This includes employing design and construction strategies that reduce stormwater runoff. Furthermore, Section 438 of the Energy Independence and Security Act of 2007 require that any development or redevelopment project involving a Federal facility with a footprint exceeding 5,000 square feet shall use site planning, design, construction, and maintenance strategies in order to maintain or restore the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow. Compliance with this requirement can be met through the implementation of Low Impact Development (LID) technologies. LID techniques would strive to maintain or restore natural hydrologic functions of a site and achieve natural resource protection. Examples include, but are not limited to, minimizing total site impervious areas, direct building drainage to vegetative buffers, use permeable pavements where practical, and break up flow directions from large paved surfaces. Where possible, pervious pavers will be used within the proposed parking lot to minimize stormwater runoff.

With the implementation of previously described protective measures, implementation of Alternative A would have only temporary, minor impacts on soils.

5.5.2 Alternative B

For the reasons described above for Alternative A, implementation of Alternative B would have short-term and long-term minor adverse impacts on soils.

5.5.3 Alternative C

The implementation of this alternative is expected to have short-term and long-term minor adverse impacts on approximately 16 acres of previously disturbed soils at Fort Gordon. Soil disturbance in the form of excavation, grading, earthmoving, and compaction would result from new construction activities. As a result, soils would be compacted, soil layer structure would be

disturbed and modified, and soils would be exposed, increasing the overall potential for erosion at the site. Soil productivity, (i.e., the capacity of the soil to produce vegetative biomass), would decline in disturbed areas and be completely eliminated for those areas within the footprint of building structures, and parking facilities. Adverse impacts to soils from the proposed construction activities would be minimized by proper construction management and planning, and the use of appropriate site-specific BMPs for controlling runoff, erosion, and sedimentation during construction activities. Areas disturbed within the equipment staging area would be reseeded, replanted, and/or re-sodded following construction activities, which would decrease the overall erosion potential of the site and improve soil productivity.

The CWA, Georgia Water Quality Act (Official Code of Georgia [OCGA] § 12-5-20), and Georgia Erosion and Sedimentation Control Act (OCGA § 12-7-1) require erosion and sediment controls during projects that disturb 1.0 acre or more of land. These Erosion and Sediment Control Plans (ESCP) must be designed and approved prior to construction, which would include measures to protect surface water resources. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, requires that all new construction comply with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings*. This includes employing design and construction strategies that reduce stormwater runoff. Furthermore, Section 438 of the Energy Independence and Security Act of 2007 requires that any development or redevelopment project involving a Federal facility with a footprint exceeding 5,000 square feet shall use site planning, design, construction, and maintenance strategies to maintain or restore the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow. Compliance with this requirement can be met through the implementation of LID technologies. LID techniques would maintain or restore natural hydrologic functions of a site and achieve natural resource protection. Examples include, but are not limited to, minimizing total site impervious areas, directing building drainage to vegetative buffers, using permeable pavements where practical, and breaking up flow directions from large paved surfaces. Where possible, pervious pavers will be used within the proposed parking lot to minimize stormwater runoff.

Adherence to the ESCP and NPDES permit, along with implementation of project-specific BMPs and LID practices would minimize impacts to water quality. Both LID practices and BMPs for erosion and sedimentation control would be implemented in accordance with the guidelines in the *Georgia Stormwater Management Manual/Coastal Stormwater Supplement* and the USEPA *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act* and the *Manual for Erosion and Sediment Control in Georgia*. BMPs specified in the ESPCP could include erosion control matting, silt fencing, brush barriers, construction exits, temporary and permanent seeding, the application of mulch, buffer zones, and dust control. The application of any or all of these BMPs would depend upon precise, specific ground conditions in the areas disturbed by construction. The selected contractor(s) would be responsible for continually maintaining all erosion and sediment control measures during the project.

With the implementation of previously described protective measures, implementation of Alternative C would have only temporary, minor impacts on soils.

5.5.4 Alternative D

For the reasons described above for Alternative C, the implementation of Alternative D would have short-term and long-term minor adverse impacts on soils.

5.5.5 Alternative E

For the reasons described above for Alternative C, the implementation of Alternative E would have short-term and long-term minor adverse impacts on soils.

5.5.6 Alternative F

For the reasons described above for Alternative C, the implementation of Alternative F would have short-term and long-term minor adverse impacts on soils.

The current design of the Alternative F avoids mapped on NWI maps, and therefore it is unlikely that direct impacts to wetlands would occur from implementation of Alternative F. However, since Alternative F is nearby mapped NWI wetlands, should wetlands be discovered at the site, a Georgia Stream Buffer Variance (SBV) is required in cases where new construction, including infrastructure improvements, requires crossing or encroaching upon "state water" by removing trees and/or vegetation within a 25-foot buffer of "state waters."

5.5.7 Alternative G

For the reasons described above for Alternative C, the implementation of Alternative G would have short-term and long-term minor adverse impacts on soils.

5.5.8 No Action

Under the no-action alternative, the proposed construction and demolition activities would not occur and baseline conditions would remain unchanged. Therefore, no significant impacts to soil resources would occur as a result of implementation of the no-action alternative.

5.6 WATER RESOURCES

Impacts to water resources would be considered significant if impacts (1) substantially deplete groundwater supplies or interfere with groundwater recharge, (2) result in a violation of federal and/or state water quality standards, (3) degrade the area's ecosystem due to the direct discharge of fill material into a wetland, or (4) alter existing drainage patterns.

Implementation of any of the seven alternatives is not expected to impact groundwater resources, and therefore groundwater resource impacts are not discussed below.

5.6.1 Alternative A

Surface Water

No impacts to surface water resources are expected. Given that the nearest water body is over 500 feet away, it is unlikely that any sediment would be transported that distance. To minimize any potential short-term impacts that could occur, projects that disturb one or more acres of earth must apply to MDE for either a General or Individual Permit for Stormwater Associated with Construction Activity. In addition, an ESD is required for any project that exceeds 5,000 SF in size, which would include measures to protect surface water resources. Fort Meade will coordinate with local, state and federal agencies to obtain any necessary permits which would include, but not be limited to, the two permits listed above.

Possible adverse impacts to waterways from the proposed construction activities would be minimized by proper construction management and planning, and the use of appropriate site-specific BMP's for controlling runoff, erosion, and sedimentation during construction activities.

Stormwater

While the alternative would increase the amount of impervious surface located on this site, resulting in increased stormwater runoff, implementation of project-specific BMPs and LID practices would minimize impacts to water quality. In addition, the use of pervious pavement and similar materials for the parking lot area is planned which will allow for stormwater infiltration on site. The use of structural soils is also a possibility, which will allow for increased infiltration of stormwater and reduce the impacts to surface water from increased impervious surface. By applying these measures, it is not anticipated that there would be any significant impacts (short or long term) on surface or storm water if any of the action alternatives were chosen for implementation.

As the work would include earth disturbances greater than 5,000-SF, an ESD would be required. Construction activities and BMPs would be implemented according to Maryland standards and specifications for erosion and sediment control to minimize any short-term impacts.

Possible long-term impacts to water resources would be minimized by meeting SWPPP requirements. The application of any or all of the stormwater engineering controls such as culverts, channels directing stormwater to retention basins would depend upon precise, specific ground conditions in the areas disturbed by construction. The SWPPP also would be required to include a site evaluation of how and where pollutants may be mobilized by stormwater; a site plan for managing stormwater runoff, maintenance and inspection schedule, a recordkeeping process, and identification of stormwater exit areas. These impacts would also be minimized through close adherence to the Maryland Stormwater Design Manual and updates, include extended stormwater detention to reduce stormwater runoff.

5.6.2 Alternative B

Surface Water

Implementation of this alternative is similar to Alternative A. No impacts to surface water resources are expected. Given that the nearest water body is over 500 feet away, it is unlikely that any sediment would be transported that distance. To minimize any potential short-term impacts that could occur, projects that disturb one or more acres of earth must apply to MDE for either a General or Individual Permit for Stormwater Associated with Construction Activity. In addition, an ESD is required for any project that exceeds 5,000 SF in size, which would include measures to protect surface water resources. Fort Meade will coordinate with local, state and federal agencies to obtain any necessary permits which would include, but not be limited to, the two permits listed above.

Adverse impacts to waterways from the proposed construction activities would be minimized by proper construction management and planning, and the use of appropriate site-specific BMP's for controlling runoff, erosion, and sedimentation during construction activities to minimize any short-term impacts.

Stormwater

While the alternative would increase the amount of impervious surface located on this site, resulting in increased stormwater runoff, implementation of project-specific BMPs and LID practices would minimize impacts to water quality. In addition, the use of pervious pavement and similar materials for the parking lot area is planned which will allow for stormwater infiltration on site. The use of structural soils is also a possibility, which will allow for increased infiltration of stormwater and reduce the impacts to surface water from increased impervious surface. By applying these measures, it is not anticipated that there would be any significant impacts (short or long term) on surface or storm water if any of the action alternatives were chosen for implementation.

As the work would include earth disturbances greater than 5,000-SF, an ESD would be required. Construction activities and BMPs would be implemented according to Maryland standards and specifications for erosion and sediment control to minimize any short-term impacts.

Possible long-term impacts to water resources would be minimized by meeting SWPPP requirements. The application of any or all of the stormwater engineering controls such as culverts, channels directing stormwater to retention basins would depend upon precise, specific ground conditions in the areas disturbed by construction. The SWPPP also would be required to include a site evaluation of how and where pollutants may be mobilized by stormwater; a site plan for managing stormwater runoff, maintenance and inspection schedule, a recordkeeping process, and identification of stormwater exit areas. These impacts would also be minimized through close adherence to the Maryland Stormwater Design Manual and updates, include extended stormwater detention to reduce stormwater runoff.

5.6.3 Alternative C

Surface Water

Implementation of Alternative C would be expected to have no impacts on surface water resources. This alternative lies within 200 feet of a perennial tributary to Spirit Creek. The Georgia EPD provided information in their May 1, 2012, letter (Appendix B) regarding the requirements for permitting if any work is within the 25 foot buffer of a State Water or within 200 feet of a State Water. In addition, the Agency provided information that any construction that would disturb one acre or more would require a permit from the Agency.

To minimize any potential short-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction, which would include measures to protect surface water resources. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

Adverse impacts to waterways from the proposed construction activities would be minimized by proper construction management and planning, and the use of appropriate site-specific BMP's for controlling runoff, erosion, and sedimentation during construction activities.

Stormwater

While the alternative would increase the amount of impervious surface located on this site, resulting in increased stormwater runoff, implementation of project-specific BMPs and LID practices would minimize impacts to water quality. In addition, the use of pervious pavement and similar materials for the parking lot area is planned which will allow for stormwater infiltration on site. The use of structural soils is also a possibility, which will allow for increased infiltration of stormwater and reduce the impacts to surface water from increased impervious surface. By applying these measures, it is not anticipated that there would be any significant impacts (short or long term) on surface or stormwater if any of the action alternatives were chosen for implementation.

To minimize any potential short-term and long-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

5.6.4 Alternative D

Surface Water

Implementation of this alternative would be expected to have no impacts on surface water resources. No water bodies are located within 500 feet of the proposed location. To minimize any potential short-term and long-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction, which would include measures to protect surface water resources. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

Adverse impacts to waterways from the proposed construction activities would be minimized by proper construction management and planning, and the use of appropriate site-specific BMP's for controlling runoff, erosion, and sedimentation during construction activities.

Stormwater

While Alternative D may increase the amount of impervious surface located on this site, resulting in increased stormwater runoff, there will be low impact development best management practices employed to treat the stormwater on site and maintain the pre-project hydrologic regime. The use of pervious pavement and similar materials for the parking lot area is planned will allow for stormwater infiltration on site. The use of structural soils is also a possibility, which will allow for increased infiltration of stormwater and reduce the impacts to surface water from increased impervious surface. The use of these best management practices will result in minimal to no impacts to downstream surface waters. As the Back Hall Campus area is already developed and most of the proposed site consists of hardened material, any increases in impervious area would be minor.

To minimize any potential short-term and long-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

5.6.5 Alternative E

Surface Water

Implementation of this alternative would be expected to have no impacts on surface water resources. No water bodies are located within 800 feet of the proposed location. To minimize any potential short-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction, which would include measures to protect surface water resources. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

Possible adverse impacts to waterways from the proposed construction activities would be minimized by proper construction management and planning, and the use of appropriate site-specific BMP's for controlling runoff, erosion, and sedimentation during construction activities.

Stormwater

While the alternative would increase the amount of impervious surface located on this site, resulting in increased stormwater runoff, implementation of project-specific BMPs and LID practices would minimize impacts to water quality. In addition, the use of pervious pavement and similar materials for the parking lot area is planned which will allow for stormwater infiltration on site. The use of structural soils is also a possibility, which will allow for increased infiltration of stormwater and reduce the impacts to surface water from increased impervious surface. By applying these measures, it is not anticipated that there would be any significant impacts (short or long term) on stormwater by implementing Alternative E.

To minimize any potential short-term and long-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

5.6.6 Alternative F

Surface Water

Implementation of this alternative would be expected to have no impacts on surface water resources. No water bodies are located within 200 feet of the proposed location. To minimize any potential short-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction, which would include measures to protect surface water resources. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

The current design of the Alternative F avoids streams and wetlands mapped on NWI maps, and therefore it is unlikely that direct impacts to streams or wetlands would occur from implementation of Alternative F. However, should streams or wetlands be discovered at the site, a Georgia SBV is required in cases where new construction, including infrastructure improvements, requires crossing or encroaching upon "state water" by removing trees and/or vegetation within a 25-foot buffer of "state waters."

Stormwater

While the alternative would increase the amount of impervious surface located on this site, resulting in increased stormwater runoff, implementation of project-specific BMPs and LID practices would minimize impacts to water quality. In addition, the use of pervious pavement and similar materials for the parking lot area is planned which will allow for stormwater infiltration on site. The use of structural soils is also a possibility, which will allow for increased infiltration of stormwater and reduce the impacts to surface water from increased impervious surface. By applying these measures, it is not anticipated that there would be any significant impacts (short or long term) on surface or stormwater by implementing this alternative.

To minimize any potential short-term and long-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

5.6.7 Alternative G

Surface Water

Implementation of this alternative would be expected to have no impacts on surface water resources. No water bodies are located within 400 feet of the proposed location. To minimize any potential short-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction, which would include measures to protect surface water resources. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

Possible adverse impacts to waterways from the proposed construction activities would be minimized by proper construction management and planning, and the use of appropriate site-specific BMP's for controlling runoff, erosion, and sedimentation during construction activities.

Stormwater

While the alternative would increase the amount of impervious surface located on this site, resulting in increased stormwater runoff, implementation of project-specific BMPs and LID practices would minimize impacts to water quality. In addition, the use of pervious pavement and similar materials for the parking lot area is planned which will allow for stormwater infiltration on site. The use of structural soils is also a possibility, which will allow for increased infiltration of stormwater and reduce the impacts to surface water from increased impervious surface. By applying these measures, it is not anticipated that there would be any significant impacts (short or long term) on surface or stormwater by implementing this alternative.

To minimize any potential short-term and long-term impacts, an ESCP and a SWPPP would be designed and approved prior to construction. Fort Gordon will coordinate with local, state and federal agencies to obtain any necessary permits.

5.6.8 No Action

Implementation of the No Action alternative would have no impacts on water resources.

5.7 FLOODPLAINS

None of the action alternatives are located within a 100- or 500-year floodplain. Therefore, no impacts to floodplains would occur from implementation of the Proposed Action at either installation.

5.8 COASTAL ZONE

Factors considered in evaluating coastal zone management impacts include the potential for the Proposed Action to be inconsistent with the federal and state enforceable policies.

5.8.1 Alternative A

Implementation of Alternative A is expected to be consistent with Maryland's enforceable policies. An ESCP and a SWPPP would be designed and approved by MDE prior to construction which would include measures to protect the "Coastal Zone".

5.8.2 Alternative B

Implementation of Alternative B is expected to be consistent with Maryland's enforceable policies. An ESCP and a SWPPP would be designed and approved by MDE prior to construction which would include measures to protect the "Coastal Zone".

5.8.3 Alternative C

Fort Gordon does not lie within the boundaries of the Georgia Coastal Management Program.

5.8.4 Alternative D

Fort Gordon does not lie within the boundaries of the Georgia Coastal Management Program.

5.8.5 Alternative E

Fort Gordon does not lie within the boundaries of the Georgia Coastal Management Program.

5.8.6 Alternative F

Fort Gordon does not lie within the boundaries of the Georgia Coastal Management Program.

5.8.7 Alternative G

Fort Gordon does not lie within the boundaries of the Georgia Coastal Management Program.

5.8.8 No Action

Under the no-action alternative, the proposed construction and demolition activities would not occur and baseline conditions would remain unchanged. There would be no impacts on coastal zone management.

5.9 BIOLOGICAL RESOURCES

Factors considered in the analysis of potential impacts to biological resources include disruption to normal wildlife behavioral patterns or disturbance to habitat at a level that would substantially impede the respective Installation's ability to meet obligations outlined in their INRMP.

As there are no wetlands within any of the proposed alternative areas, this resource has not been analyzed below. No impacts to this resource is expected. No impacts to aquatic habitats are expected from any of the alternatives as no water bodies are within close proximity of any of the proposed sites.

5.9.1 Alternative A

<u>Vegetation</u>

Minor short-term and long-term adverse impacts to vegetation in the area would be anticipated as a result of Alternative A. Removal of grasses, landscaping, brush, and trees would be expected. Construction would disturb the plant ecology, particularly grasses and herbaceous areas, in the immediate vicinity of project site. Temporary impacts to vegetation would not be significant. Permanent removal of approximately 18 acres of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site due to the fact that the vegetated areas

are not unique or habitat for rare, threatened or endangered species, and that there is an abundance of similar habitat in adjacent or nearby areas.

Impacts on Fort Meade land would be mitigated on the installation in accordance with the current Fort Meade Forest Conservation Act (FCA) and Tree Policy, through forest preservation or reforestation. Project proponents would preserve or establish 20% forest cover, regardless if the site was forested before the construction. Street trees would be replaced at a minimum of a 1:1 ratio, with preference given to the preservation of specimen trees. Specimen tree replacement ratios would be calculated on a case by case basis.

Existing, healthy landscape and street trees will be preserved where ever possible. Construction will also be planned to provide for the preservation of specimen trees. All designs would incorporate tree protection practices including, but not limited to, protective fencing around the critical root zone of trees, trunk protection, and root pruning. Tree preservation measures and required pruning should be performed by a certified arborist and shall be in accordance with American National Standards Institute (ANSI) standards.

Native species will be used in the landscaping plans and invasive species currently on the site will be removed or controlled as appropriate. Reforestation/afforestation would be planned to establish a wildlife corridor on the northern boundary of this site. Forestation that cannot feasibly be performed within the project area shall be performed on other designated land areas within Fort Meade. Reforestation, planting plans and specifications would be part of all designs. The fair market value of all forest products removed due to the proposed action shall be deposited into the Army's Forestry Account.

Terrestrial Wildlife

Implementation of the Proposed Action would have a short-term and long-term minor adverse impact by displacing wildlife. In the short-term, construction would disturb wildlife on, and in the immediate area of the project location. Some species, particularly birds, would be temporarily discouraged from the area through destruction of habitat, noise, and/or dust. Wildlife would scatter to adjacent wooded areas and open fields and some wildlife may gradually return to the area of the proposed project once construction is complete. Permanent removal of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site, resulting in loss of wildlife habitat; however, an abundance of suitable habitat exists nearby.

Rare, Threatened or Endangered Species

As there are no rare, threatened or endangered species within Alternative A no impacts to this resource is expected.

5.9.2 Alternative B

Vegetation

The Alternative B construction location has been mostly cleared in anticipation of the beginning of the East Campus construction; however, an ecologically important forested corridor remains

along O'Brien Road. Minor short-term and long term adverse impacts would occur to vegetation communities and wildlife habitat from the permanent removal of approximately 18 acres of a mature hardwood forested corridor that extends throughout the installation. Removal of forest, shrubs, landscaping and grasses would be expected. Project proponents would minimize long term impacts by preserving the mature hardwood forested corridor along O'Brien Road and minimizing forest fragmentation to the maximum extent possible.

Impacts on Fort Meade land would be mitigated on the installation in accordance with the current Fort Meade Forest Conservation Act (FCA) and Tree Policy, through forest preservation or reforestation. Project proponents would preserve or establish 20% forest cover, regardless if the site was forested before the construction. Street trees would be replaced at a minimum of a 1:1 ratio, with preference given to the preservation of specimen trees. Specimen tree replacement ratios would be calculated on a case by case basis.

Project proponents would preserve the 300-foot forested corridor along O'Brien Road as it currently exists to the maximum extent practicable. In addition to the 300-foot forested corridor, buffers of a minimum of fifty feet will be maintained as practicable to minimize additional forest fragmentational. In areas where the project proponent cannot retain the 300-foot forested corridor, the maximum amount of forest will be retained.

Construction will also be planned to provide for the preservation of specimen trees where possible. All designs would incorporate tree protection practices including, but not limited to, protective fencing around the critical root zone of trees, trunk protection, and root pruning. Tree preservation measures and required pruning should be performed by a certified arborist and shall be in accordance with American National Standards Institute (ANSI) standards.

Native species will be used in the landscaping plans and invasive species currently on the site will be removed or controlled as appropriate. Any reforestation/afforestation necessary would be used to augment the corridor on the western portion of the site. Forestation that cannot feasibly be performed within the project area shall be performed on other designated land areas within the installation. Reforestation, planting plans and specifications would be part of all designs. The fair market value of all forest products removed due to the proposed action shall be deposited into the Army's Forestry Account.

Terrestrial Wildlife

Implementation of the Proposed Action would have a short-term and long-term minor adverse impact by displacing wildlife. In the short-term, construction would disturb wildlife on, and in the immediate area of the project location. Some species, particularly birds, would be temporarily discouraged from the area through destruction of habitat, noise, and/or dust. Wildlife would scatter to adjacent wooded areas and open fields and some wildlife may gradually return to the area of the proposed project once construction is complete. Permanent removal of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site, resulting in loss of wildlife habitat.

Rare, Threatened or Endangered Species

As there are no rare, threatened or endangered species within Alternative B no impacts to this resource is expected.

5.9.3 Alternative C

Vegetation

Minor short-term and long-term adverse impacts would be anticipated as a result of Alternative C. Removal of grasses, landscaping, brush, and trees would be expected. Construction would disturb the plant ecology, particularly grasses and herbaceous areas, in the immediate vicinity of project site. Temporary impacts to vegetation would not be significant. Permanent removal of 16 acres of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site due to the fact that the vegetated areas are not unique or habitat for rare, threatened or endangered species, and that there is an abundance of similar habitat in adjacent or nearby areas. Landscape plantings will be made contiguous to groups of existing trees, to include street trees, where possible. Native species will be used in the landscaping plans; invasive species currently on the site will be removed or controlled as appropriate.

Terrestrial Wildlife

Implementation of Alternative C would have a short-term and long-term minor adverse impact by displacing wildlife. In the short-term, construction would disturb wildlife on, and in the immediate area of the project location. Some species, particularly birds, would be temporarily discouraged from the area through destruction of habitat, noise, and/or dust. Wildlife would scatter to adjacent wooded areas and open fields and some wildlife may gradually return to the area of the proposed project once construction is complete. Permanent removal of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site, resulting in loss of wildlife habitat.

Rare, Threatened or Endangered Species

As there are no rare, threatened or endangered species within Alternative C no impacts to this resource is expected.

5.9.4 Alternative D

Vegetation

Minimal short-term and long-term adverse impacts to vegetation would be anticipated as a result of the Alternative D. This area has been highly developed and any vegetative cover is negligible. Removal of grasses and landscaping would be expected. Permanent removal of marginal vegetative habitat would have a long-term very minor adverse impact to vegetation at the site. Landscape plantings will be made contiguous to groups of existing trees, to include street trees, where possible. Native species will be used in the landscaping plans; invasive species currently on the site will be removed or controlled as appropriate.

Terrestrial Wildlife

Minimal short-term and long-term adverse impacts to wildlife would be anticipated as a result of the Alternative D. This area has been highly developed and any wildlife habitat is negligible. Permanent removal of marginal vegetative habitat would have a long-term very minor adverse impact to wildlife at the site.

Rare, Threatened or Endangered Species

As there are no rare, threatened or endangered species within Alternative D no impacts to this resource is expected.

5.9.5 Alternative E

Vegetation

The location for Alternative E was almost completely cleared as a result of the construction of Whitelaw Hall. Several large trees still remain near the project area. Minor short-term and long-term adverse impacts would be anticipated as a result of Alternative E. Removal of grasses, landscaping, brush, and trees would be expected. Temporary impacts to approximately seven acres of vegetation would not be significant. Permanent removal of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site due to the fact that the vegetated areas are not unique or habitat for rare, threatened or endangered species, and that there is an abundance of similar habitat in adjacent or nearby areas. Landscape plantings will be made contiguous to groups of existing trees, to include street trees, where possible. Native species will be used in the landscaping plans; invasive species currently on the site will be removed or controlled as appropriate.

Terrestrial Wildlife

Implementation of Alternative E would have a short-term and long-term minor adverse impact by displacing wildlife. In the short-term, construction would disturb wildlife on, and in the immediate area of the project location. Some species, particularly birds, would be temporarily discouraged from the area through destruction of habitat, noise, and/or dust. Wildlife would scatter to adjacent wooded areas and open fields and some wildlife may gradually return to the area of the proposed project once construction is complete. Permanent removal of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site, resulting in loss of wildlife habitat.

Rare, Threatened or Endangered Species

As there are no rare, threatened or endangered species within Alternative E no impacts to this resource is expected.

5.9.6 Alternative F

Vegetation

Minor short-term and long-term adverse impacts would be anticipated as a result of Alternative F. Removal of grasses, landscaping, brush, and trees would be expected. Construction would disturb the plant ecology, particularly grasses and herbaceous areas, in the immediate vicinity of project site. Temporary impacts to approximately seven acres of vegetation would not be significant. Permanent removal of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site due to the fact that the vegetated areas are not unique or habitat for rare, threatened or endangered species, and that there is an abundance of similar habitat in adjacent or nearby areas. Landscape plantings will be made contiguous to groups of existing trees, to include street trees, where possible. Native species will be used in the landscaping plans; invasive species currently on the site will be removed or controlled as appropriate.

Terrestrial Wildlife

Implementation of Alternative F would have a short-term and long-term minor adverse impact by displacing wildlife. In the short-term, construction would disturb wildlife on, and in the immediate area of the project location. Some species, particularly birds, would be temporarily discouraged from the area through destruction of habitat, noise, and/or dust. Wildlife would scatter to adjacent wooded areas and open fields and some wildlife may gradually return to the area of the proposed project once construction is complete. Permanent removal of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site, resulting in loss of wildlife habitat.

Rare, Threatened or Endangered Species

As there are no rare, threatened or endangered species within Alternative F no impacts to this resource is expected.

5.9.7 Alternative G

Vegetation

Minor short-term and long-term adverse impacts would be anticipated as a result of Alternative G. Removal of grasses, landscaping, brush, and trees would be expected. Construction would disturb the plant ecology, particularly grasses and herbaceous areas, in the immediate vicinity of project site. Temporary impacts to vegetation would not be significant. Permanent removal of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site due to the fact that the vegetated areas are not unique or habitat for rare, threatened or endangered species, and that there is an abundance of similar habitat in adjacent or nearby areas. Landscape plantings will be made contiguous to groups of existing trees, to include street trees, where possible. Native species will be used in the landscaping plans; invasive species currently on the site will be removed or controlled as appropriate.

Terrestrial Wildlife

Implementation of Alternative G would have a short-term and long-term minor adverse impact by displacing wildlife. In the short-term, construction would disturb wildlife on, and in the immediate area of the project location. Some species, particularly birds, would be temporarily discouraged from the area through destruction of habitat, noise, and/or dust. Wildlife would scatter to adjacent wooded areas and open fields and some wildlife may gradually return to the area of the proposed project once construction is complete. Permanent removal of vegetative habitat would have a long-term minor adverse impact to vegetation and wildlife at the site, resulting in loss of wildlife habitat.

Rare, Threatened or Endangered Species

One southeastern American kestrel nesting box is located within the site of Alternative G. This alternative was added to the EA after coordination letters were sent in May 2012. The American kestrel nest box program is managed under the approved Fort Gordon Integrated Natural Resources Management Plan and has previously been coordinated and approved by state and federal wildlife agencies. Fort Gordon biologist will relocate American kestrel nesting boxes as necessary to mitigate any potential impacts.

5.9.8 No Action

Implementation of the No Action alternative would not be expected to have any impact on vegetation as no construction or demolition would occur.

The No Action alternative would not be expected to have an impact on local wildlife species inhabiting the project areas. Trees and other vegetation would be undisturbed and would continue to provide cover and food for wildlife.

5.10 CULTURAL RESOURCES

No cultural resources have been identified within the proposed site locations at Fort Meade or Fort Gordon; therefore, no impacts are anticipated. If cultural resources are inadvertently discovered by construction contractors, activities would cease and the discovery would be immediately reported to the respective Installation's cultural resource manager in accordance with the respective Installation's ICRMP guidance and procedures.

Implementation of the No Action alternative would not be expected to have any impact on cultural resources as no construction or demolition would occur.

5.11 HAZARDOUS, TOXIC, AND RADIOACTIVE SUBSTANCES

The significance of potential impacts associated with hazardous materials and wastes is based on the toxicity, transportation, storage, and disposal of these substances. Hazardous materials and waste impacts would be considered significant if the storage, use, transportation, or disposal of these substances substantially increases the human health risk or environmental exposure.

All contractors would be responsible for adhering either to Fort Meade's or Fort Gordon's policies and procedures as well as state and Federal regulations for storage, handling, and disposal of hazardous wastes.

5.11.1 Alternative A

No impacts to HTRS are expected from implementation of this alternative. Construction activities may require use of hazardous materials such as paints; cleaners; petroleum, oils, and lubricants (POLs). Contractual obligations in the construction documents would require contractors to adhere to all applicable state and Federal regulations pertaining to toxic substances and hazardous materials. Because of the limited amount of construction required, negligible amounts of chemicals, such as POLs and waste products, would be used and/or generated. Over the long term, operation of the proposed facilities would not have a significant impact on the use or generation of hazardous material and wastes at the Installation.

Portions of the site are located in areas that are classified as Category 7 under the Environmental Condition of Property (ECOP) as defined by CERFA guidance, the DoD *BRAC Cleanup Plan (BCP) Guidebook* (DOD 1995/1996), and the FY 97 Defense Authorization Act and will require further investigation and coordination with state and Federal agencies should this alternative be selected (USACE, 2004).

A portion of this site located at the northwest corner of Mapes Road and Taylor Avenue was once a former mortar range. An investigation of the area has determined that the potential for UXO is low. However, should any ordnance be encountered during construction, the contractor would be required to immediately stop work and report the discovery to the installation, and implement appropriate safety measures.

5.11.2 Alternative B

Possible short-term impacts and long-term minor benefits to HTRS are expected from implementation of this alternative. Prior to interior renovation activities, surveys will be performed to identify any present ACM, LBP, PCBs, as well any other potentially harmful contaminants. Identified contaminants will be removed or managed in place by licensed contractors. If the materials are removed, they will disposed of in accordance with applicable Federal and State laws and regulations. Army policy calls for controlling LBP by using in-place management rather than mandated removal procedures. In-place management is used to prevent deterioration over time of those surfaces likely to contain LBP, followed by replacement as necessary. In cases where activities require demolition, removal, and/or replacement of material containing LBP, the LBP should be encapsulated and removed in accordance with Army, Housing and Urban Development, and Occupational Safety and Health Administration guidelines, which cover contractor training, notification requirements, use of personal protective equipment, and approved disposal methods.

Construction activities may require use of hazardous materials such as POLs. Contractual obligations in the construction documents would require contractors to adhere to all applicable state and Federal regulations pertaining to toxic substances and hazardous materials. Because of the limited amount of construction required, negligible amounts of chemicals, such as paints,

cleaners, POLs, and waste products, would be used and/or generated. Over the long term, operation of the proposed facilities would not have a significant impact on the use or generation of hazardous material and wastes at the Installation.

Portions of the site are located in areas that are classified as Category 7 under the ECOP as defined by CERFA guidance, the DoD *BRAC Cleanup Plan (BCP) Guidebook* (DOD 1995/1996), and the FY 97 Defense Authorization Act and will require further investigation and coordination with state and Federal agencies should this alternative be selected (USACE, 2004).

A portion of this site located on the East Campus was once a former mortar range. An investigation of the area has determined that the potential for UXO is low. However, should any ordnance be encountered during construction, the contractor would be required to immediately stop work and report the discovery to the installation, and implement appropriate safety measures.

5.11.3 Alternative C

No impacts to HTRS are expected from implementation of this alternative. Construction activities may require use of hazardous materials such as POLs. Contractual obligations in the construction documents would require contractors to adhere to all applicable state and Federal regulations pertaining to toxic substances and hazardous materials. Because of the limited amount of construction required, negligible amounts of chemicals, such as paints, cleaners, POLs, and waste products, would be used and/or generated. Over the long term, operation of the proposed facilities would not have a significant impact on the use or generation of hazardous material and wastes at the Installation.

5.11.4 Alternative D

Possible short-term impacts and long-term minor benefits to HTRS are expected from implementation of this alternative. Prior to interior renovation activities, surveys will be performed to identify any present ACM, LBP, PCBs, as well any other potentially harmful contaminants. Identified contaminants will be removed or managed in place by licensed contractors. If the materials are removed, they will disposed of in accordance with applicable Federal and State laws and regulations. Army policy calls for controlling LBP by using in-place management rather than mandated removal procedures. In-place management is used to prevent deterioration over time of those surfaces likely to contain LBP, followed by replacement as necessary. In cases where activities require demolition, removal, and/or replacement of material containing LBP, the LBP should be encapsulated and removed in accordance with Army, Housing and Urban Development, and Occupational Safety and Health Administration guidelines, which cover contractor training, notification requirements, use of personal protective equipment, and approved disposal methods.

Construction activities may require use of hazardous materials such as POLs. Contractual obligations in the construction documents would require contractors to adhere to all applicable state and Federal regulations pertaining to toxic substances and hazardous materials. Because of the limited amount of construction required, negligible amounts of chemicals, such as paints, cleaners, POLs, and waste products, would be used and/or generated. Over the long term,

operation of the proposed facilities would not have a significant impact on the use or generation of hazardous material and wastes at the Installation.

5.11.5 Alternative E

No impacts to HTRS are expected from implementation of this alternative. Construction activities may require use of hazardous materials such as POLs. Contractual obligations in the construction documents would require contractors to adhere to all applicable state and Federal regulations pertaining to toxic substances and hazardous materials. Because of the limited amount of construction required, negligible amounts of chemicals, such as paints, cleaners, POLs, and waste products, would be used and/or generated. Over the long term, operation of the proposed facilities would not have a significant impact on the use or generation of hazardous material and wastes at the Installation.

The only Environmental Restoration Program (ERP) area within the footprint of the proposed facility is SWMU-024A, which has received a No Further Action determination from Georgia EPD. Therefore, no demolition or construction activities would take place in ERP areas that have not been formally closed. If methane gas is detected at the proposed building site, the exterior sides of the subsurface walls of the building would be treated with an impermeable coating to prevent gas migration into the building and plug-in type continuous methane gas detectors would be installed in the subsurface rooms of the building. The methane monitoring wells along 17th Street cannot be disturbed. Access must be allowed for sampling of these methane monitoring wells and, if necessary, installation of new methane monitoring wells. Additionally, access must be allowed for sampling the former SWMU-024A groundwater monitoring wells in case they need to be used to monitor SWMU-024.

5.11.6 Alternative F

No impacts to HTRS are expected from implementation of this alternative. Construction activities may require use of hazardous materials such as POLs. Contractual obligations in the construction documents would require contractors to adhere to all applicable state and Federal regulations pertaining to toxic substances and hazardous materials. Because of the limited amount of construction required, negligible amounts of chemicals, such as paints, cleaners, POLs, and waste products, would be used and/or generated. Over the long term, operation of the proposed facilities would not have a significant impact on the use or generation of hazardous material and wastes at the Installation.

5.11.7 Alternative G

No impacts to HTRS are expected from implementation of this alternative. Construction activities may require use of hazardous materials such as POLs. Contractual obligations in the construction documents would require contractors to adhere to all applicable state and Federal regulations pertaining to toxic substances and hazardous materials. Because of the limited amount of construction required, negligible amounts of chemicals, such as paints, cleaners, POLs, and waste products, would be used and/or generated. Over the long term, operation of the proposed facilities would not have a significant impact on the use or generation of hazardous material and wastes at the Installation.

5.11.8 No Action

The No Action alternative would not be expected to have any impacts on the handling and disposal of hazardous materials/wastes.

5.12 TRAFFIC AND ROADWAYS

Consistent with the East Campus EIS (NSA, 2010) and other NEPA documentation, a project is considered to have a significant effect on the operations of an intersection if the addition of traffic causes LOS to degrade from LOS D or better to LOS E or F.

In addition, a project may contribute toward a substantial cumulative effect if its traffic, when taken together with traffic from past, present and reasonably foreseeable future projects, causes intersection LOS to decline from LOS D or better to LOS E or F.

Daily and peak hour traffic generations were estimated based on trip generation rates published in *Trip Generation, 8th Edition: An Institute of Transit Engineers (ITE) Informational Report* (ITE, 2008). This traffic was then added to existing intersections in accordance with a distribution pattern that was developed for each action alternative, based on the location of each alternative site, installation gate locations, existing traffic volumes, and likely travel routes between the gates and each alternative site. Refer to Appendix D for a copy of the traffic study.

5.12.1 Alternative A

In analyzing potential impacts from implementing Alternative A, baseline conditions for 2016 were established. The revised baseline conditions assume an increase in traffic and transportation improvements over what was described in Section 4 using Figure 4.2-9 of the East Campus EIS. As indicated in Table 5-6, implementation of Alternative A would result in a substantial traffic effect at the following locations:

- Mapes Rd./6th Armored Cavalry Rd.
- Reece Rd./Cooper Ave.

Table 5-6: Intersection Level of Service and Effects Summary, Alternative A (Fort Meade)

ID	Intersection	Peak Hour	Baseline	With Alt. A	Substantial Effect?	Alt. A with Mitigation	Substantial Effect with Mitigation?
			LOS (a)	LOS (a)		LOS (a)	
1	MD 32 Eastbound/Laurel Ft. Meade Rd.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
2	MD 32 Westbound/Mapes Rd.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
3	Mapes Rd./O'Brien Rd.	AM	C	C	NO	-	-
		PM	C	C	NO	-	-
4	Mapes Rd./6th Armored Cavalry Rd.	AM	**F**	**F**	NO	-	-
		PM	D	**F**	**YES**	B	NO

Table 5-6: Intersection Level of Service and Effects Summary, Alternative A (Fort Meade)							
ID	**Intersection**	**Peak Hour**	**Baseline**	**With Alt. A**	**Substantial Effect?**	**Alt. A with Mitigation**	**Substantial Effect with Mitigation?**
			LOS (a)	**LOS (a)**		**LOS (a)**	
5	Mapes Rd./Zimborski Ave.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
6	Mapes Rd./Taylor Ave.	AM	C	D	NO	-	-
		PM	**F**	**F**	NO	-	-
7	Mapes Rd./Cooper Ave.	AM	D	D	NO	-	-
		PM	C	C	NO	-	-
8	Mapes Rd./Ernie Pyle St.	AM	B	C	NO	-	-
		PM	**F**	**F**	NO	-	-
9	Llewellyn Ave./Annapolis Rd.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
10	Mapes Rd./Annapolis Rd.	AM	**E**	**E**	NO	-	-
		PM	D	D	NO	-	-
11	Reece Rd./Annapolis Rd.	AM	D	D	NO	-	-
		PM	D	D	NO	-	-
12	Rockenbach Rd./Annapolis Rd.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
13	Reece Rd./Cooper Ave.	AM	C	D	NO	-	-
		PM	D	**E**	**YES**	C	NO
14	Rockenbach Rd./Cooper Ave.	AM	D	D	NO	-	-
		PM	C	C	NO	-	-
15	Rockenbach Rd./29th Division Blvd.	AM	C	B	NO	-	-
		PM	D	D	NO	-	-
16	Rockenbach Rd./O'Brien Rd.	AM	**E**	**F**	NO	-	-
		PM	D	D	NO	-	-

Notes: **Bold** values indicate intersections operating at LOS E or F.
Bold and shaded values indicate substantial project effect.
(a) LOS calculations are based on the methodology outlined in the Highway Capacity Manual and National Cooperative Highway Research Program Report 672, and performed using Synchro 8 and the Georgia Department of Transportation Roundabout Analysis Tool version 2.1.

None of the other 14 intersections within the ROI would experience any substantial traffic effect. While implementation of Alternative A has the potential to result in significant adverse traffic effects to select intersections, the application of the proposed mitigation measures described in Table 5-7 and detailed further in Appendix D would lessen the projected traffic impacts to a LOS C or better. It is also recommended that additional traffic surveys be conducted following implementation of Alternative A, if selected as the course of action, to confirm projected traffic conditions and identify further measures to minimize traffic impacts.

Table 5-7: Summary of Mitigation Measures for Fort Meade, by Location and Alternative		
ID	**Intersection**	**Alternative A**
4	Mapes Rd./ 6th Armored Cavalry Rd.	Install traffic signal and provide protected plus permitted phasing for the westbound approach. (Signal timing and phasing should be coordinated with other signals along Mapes Rd.)
13	Reece Rd./ Cooper Ave.	Revise signal operation from split phasing to protected plus permitted phasing for eastbound and westbound left turns.

5.12.2 Alternative B

As stated in the East Campus EIS (NSA, 2010) the NSA expansions, BRAC action, EUL action, and other developments at and around Fort Meade would result in additional transportation constraints and deficiencies. A series of transportation improvements were recommended to mitigate adverse impacts to transportation. Refer to the East Campus EIS for previously identified mitigation measures.

5.12.3 Alternative C

In analyzing potential impacts from implementing the proposed action, baseline conditions for 2016 were established. The revised baseline conditions assume an increase in traffic and transportation improvements over what was described in Section 4 using a conservative growth factor of 3 percent per year for 2012 through 2016. As indicated in Table 5-8, implementation of Alternative C would result in a substantial traffic effect at the following locations:

- Chamberlain Ave./19th St.
- Lane Ave./19th St.
- Lane Ave./25th St.
- North Range Rd./111th St.
- US Highway 1 Southbound/Ave. of the States

Table 5-8: Intersection Level of Service and Effects Summary, Alternative C (Fort Gordon)							
ID	**Intersection**	**Peak Hour**	**Baseline**	**With Alt. C**	**Substantial Effect?**	**Alt. C with Mitigation**	**Effect with Mitigation?**
			LOS (a)	**LOS (a)**		**LOS (a)**	
1	Gordon Highway/13th St.	AM	**F**	**F**	NO	-	-
		PM	D	D	NO	-	-
2	Gordon Highway/19th St.	AM	**E**	**E**	NO	-	-
		PM	**F**	**F**	NO	-	-
3	Gordon Highway/7th Ave.	AM	D	D	NO	-	-
		PM	**F**	**F**	NO	-	-
4	13th St./19th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-

Table 5-8: Intersection Level of Service and Effects Summary, Alternative C (Fort Gordon)							
ID	**Intersection**	**Peak Hour**	**Baseline**	**With Alt. C**	**Substantial Effect?**	**Alt. C with Mitigation**	**Effect with Mitigation?**
			LOS (a)	**LOS (a)**		**LOS (a)**	
5	Chamberlain Ave./15th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
6	Chamberlain Ave./19th St.	AM	D	**E**	**YES**	C	NO
		PM	**F**	**F**	NO	-	-
7	Chamberlain Ave./25th St.	AM	C	D	NO	-	-
		PM	**E**	**E**	NO	-	-
8	Chamberlain Ave./Rice Rd.	AM	B	B	NO	-	-
		PM	D	D	NO	-	-
9	Chamberlain Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
10	Barnes Ave./19th St.	AM	**F**	**F**	NO	-	-
		PM	C	C	NO	-	-
11	Barnes Ave./25th St.	AM	D	D	NO	-	-
		PM	C	D	NO	-	-
12	Brainard Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
13	Lane Ave./15th St.	AM	**E**	**F**	NO	-	-
		PM	**E**	**E**	NO	-	-
14	Lane Ave./19th St.	AM	C	**F**	**YES**	B	NO
		PM	**E**	**F**	NO	-	-
15	Lane Ave./25th St	AM	D	**F**	**YES**	A	NO
		PM	**F**	**F**	NO	-	-
16	Lane Ave./Rice Rd.	AM	A	A	NO	-	-
		PM	A	A	NO	-	-
17	North Range Rd./111th St.	AM	A	**F**	**YES**	A	NO
		PM	B	**F**	**YES**	A	NO
18	North Range Rd./Ave. of the States	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
19	US Highway 1 Southbound/Ave. of the States	AM	D	**F**	**YES**	A	NO
		PM	**F**	**F**	NO	-	-
20	US Highway 1 Northbound/Tobacco Rd.	AM	**E**	**F**	NO	-	-
		PM	**E**	**E**	NO	-	-

Notes: **Bold** values indicate intersections operating at LOS E or F.
Bold and shaded values indicate substantial project effect.
(a) LOS calculations are based on the methodology outlined in the Highway Capacity Manual and National Cooperative Highway Research Program Report 672, and performed using Synchro 8 and the Georgia Department of Transportation Roundabout Analysis Tool version 2.1.

Alternative C would not have a substantial effect on the remaining 15 intersections. While implementation of Alternative C has the potential to result in significant adverse traffic effects to

select intersections, the application of the proposed mitigation measures described in Table 5-9 and detailed further in Appendix D would lessen the projected traffic impacts to a LOS C or better. It is also recommended that additional traffic surveys be conducted following implementation of Alternative C, if selected as the course of action, to confirm projected traffic conditions and identify further measures to minimize traffic impacts.

Table 5-9: Summary of Mitigation Measures for Fort Gordon, by Location and Alternative

ID	Intersection	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
6	Chamberlain Ave./19th St.	Revise signal operation to provide permitted phasing for eastbound, westbound, and northbound left turns, and provide permitted plus protected phasing for southbound left turns. Also restripe the westbound approach to provide one shared through/left turn lane and one dedicated right turn lane.	Same as Alternative C.	No mitigation required.	No mitigation required.	No mitigation required.
7	Chamberlain Ave./25th St.	No mitigation required.	No mitigation required.	No mitigation required.	No mitigation required.	Install traffic signal.
8	Chamberlain Ave./Rice Rd.	No mitigation required.	No mitigation required.	Revise signal operation to provide for northbound right turns to overlap with westbound left turns.	No mitigation required.	Same as Alternative E.
10	Barnes Ave./19th St.	No mitigation required.	Install all-way stop control.	No mitigation required.	Install all-way stop control, and restripe the northbound approach to provide one shared left/through turn lane and one dedicated right turn lane.	Install traffic signal.
11	Barnes Ave./25th St.	No mitigation required.	Install traffic signal.	No mitigation required.	Install traffic signal.	Install traffic signal.
14	Lane Ave./ 19th St.	Install traffic signal, and provide protected plus permitted phasing for southbound left turns in the afternoon peak.	No mitigation required.	Same as Alternative C.	No mitigation required.	No mitigation required.
15	Lane Ave./ 25th St.	Install traffic signal.	Same as Alternative C.	Same as Alternative C.	No mitigation required.	No mitigation required.

Table 5-9: Summary of Mitigation Measures for Fort Gordon, by Location and Alternative						
ID	**Intersection**	**Alternative C**	**Alternative D**	**Alternative E**	**Alternative F**	**Alternative G**
17	North Range Rd./ 111th St.	Install traffic signal and remove westbound leg to form "T" intersection. Channelize southbound right turns.	No mitigation required.	Install all-way stop control.	No mitigation required.	Same as Alternative C.
19	US Highway 1 Southbound/Ave. of the States[1]	Install traffic signal.	Same as Alternative C.	Same as Alternative C.	Same as Alternative C.	No mitigation required.

5.12.4 Alternative D

As indicated in Table 5-10, implementation of Alternative D would result in substantial traffic effects at the following locations:

- Chamberlain Ave./19th St.
- Barnes Ave./25th St.
- Brainard Ave./Kilbourne St.
- US Highway 1 Southbound/Ave. of the States

Table 5-10: Intersection Level of Service and Effects Summary, Alternative D (Fort Gordon)							
ID	**Intersection**	**Peak Hour**	**Baseline**	**With Alt. D**	**Substantial Effect?**	**Alt. D with Mitigation**	**Substantial Effect with Mitigation?**
			LOS (a)	**LOS (a)**		**LOS (a)**	
1	Gordon Highway/13th St.	AM	**F**	**F**	NO	-	-
		PM	D	D	NO	-	-
2	Gordon Highway/19th St.	AM	**E**	**E**	NO	-	-
		PM	**F**	**F**	NO	-	-
3	Gordon Highway/7th Ave.	AM	D	D	NO	-	-
		PM	**F**	**F**	NO	-	-
4	13th St./19th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
5	Chamberlain Ave./15th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
6	Chamberlain Ave./19th St.	AM	D	**E**	**YES**	D	NO
		PM	**F**	**F**	NO	-	-
7	Chamberlain Ave./25th St.	AM	C	D	NO	-	-
		PM	**E**	**E**	NO	-	-
8	Chamberlain Ave./Rice Rd.	AM	B	B	NO	-	-
		PM	D	D	NO	-	-
9	Chamberlain Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-

[1] Interchange improvements should be coordinated with the Georgia Department of Transportation.

Table 5-11: Intersection Level of Service and Effects Summary, Alternative D (Fort Gordon)							
ID	**Intersection**	**Peak Hour**	**Baseline**	**With Alt. D**	**Substantial Effect?**	**Alt. D with Mitigation**	**Substantial Effect with Mitigation?**
10	Barnes Ave./19th St.	AM	**F**	**F**	NO	-	-
		PM	C	D	NO	-	-
11	Barnes Ave./25th St.	AM	D	**E**	**YES**	B	NO
		PM	C	D	NO	-	-
12	Brainard Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
13	Lane Ave./15th St.	AM	**E**	**E**	NO	-	-
		PM	**E**	**E**	NO	-	-
14	Lane Ave./19th St.	AM	C	C	NO	-	-
		PM	**E**	**E**	NO	-	-
15	Lane Ave./25th St	AM	D	**E**	**YES**	A	NO
		PM	**F**	**F**	NO	-	-
16	Lane Ave./Rice Rd.	AM	A	A	NO	-	-
		PM	A	A	NO	-	-
17	North Range Rd./111th St.	AM	A	A	NO	-	-
		PM	B	B	NO	-	-
18	North Range Rd./Ave. of the States	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
19	US Highway 1 Southbound/Ave. of the States	AM	D	**F**	**YES**	A	NO
		PM	**F**	**F**	NO	-	-
20	US Highway 1 Northbound/Tobacco Rd.	AM	**E**	**F**	NO	-	-
		PM	**E**	**F**	NO	-	-

Notes: **Bold** values indicate intersections operating at LOS E or F.
Bold and shaded values indicate substantial project effect.
(a) LOS calculations are based on the methodology outlined in the Highway Capacity Manual and National Cooperative Highway Research Program Report 672, and performed using Synchro 8 and the Georgia Department of Transportation Roundabout Analysis Tool version 2.1.
LOS = Level of Service

Alternative D would not result in any substantial effect at any of the 16 remaining intersections in the ROI. While implementation of Alternative D has the potential to result in significant adverse traffic impacts to select intersections, the application of the proposed mitigation measures described in Table 5-9 and detailed further in Appendix D would lessen the projected traffic impacts to a LOS D or better. It is also recommended that additional traffic surveys be conducted following implementation of Alternative D, if selected as the course of action, to confirm projected traffic conditions and identify further measures to minimize traffic impacts.

5.12.5 Alternative E

As indicated in Table 5-11, implementation of Alternative E would result in substantial traffic effects at the following locations:

- Chamberlain Ave./25th St.
- Lane Ave./19th St.
- Lane Ave./25th St.
- North Range Rd./111th St.
- US Highway 1 Southbound/Ave. of the States

Table 5-12: Intersection Level of Service and Effects Summary, Alternative E (Fort Gordon)

ID	Intersection	Peak Hour	Baseline	With Alt. E	Substantial Effect?	Alt. E with Mitigation	Substantial Effect with Mitigation?
			LOS (a)	LOS (a)		LOS (a)	
1	Gordon Highway/13th St.	AM	**F**	**F**	NO	-	-
		PM	D	D	NO	-	-
2	Gordon Highway/19th St.	AM	**E**	**E**	NO	-	-
		PM	**F**	**F**	NO	-	-
3	Gordon Highway/7th Ave.	AM	D	D	NO	-	-
		PM	**F**	**F**	NO	-	-
4	13th St./19th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
5	Chamberlain Ave./15th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
6	Chamberlain Ave./19th St.	AM	D	D	NO	-	-
		PM	**F**	**F**	NO	-	-
7	Chamberlain Ave./25th St.	AM	C	D	NO	-	-
		PM	**E**	**E**	NO	-	-
8	Chamberlain Ave./Rice Rd.	AM	B	B	NO	-	-
		PM	D	**E**	**YES**	D	NO
9	Chamberlain Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
10	Barnes Ave./19th St.	AM	**F**	**F**	NO	-	-
		PM	C	C	NO	-	-
11	Barnes Ave./25th St.	AM	D	D	NO	-	-
		PM	C	D	NO	-	-
12	Brainard Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
13	Lane Ave./15th St.	AM	**E**	**F**	NO	-	-
		PM	**E**	**E**	NO	-	-
14	Lane Ave./19th St.	AM	C	**F**	**YES**	A	NO
		PM	**E**	**F**	NO	-	-

Table 5-12: Intersection Level of Service and Effects Summary, Alternative E (Fort Gordon)							
ID	**Intersection**	**Peak Hour**	**Baseline**	**With Alt. E**	**Substantial Effect?**	**Alt. E with Mitigation**	**Substantial Effect with Mitigation?**
			LOS (a)	**LOS (a)**		**LOS (a)**	
15	Lane Ave./25th St	AM	D	**F**	**YES**	A	NO
		PM	**F**	**F**	NO	-	-
16	Lane Ave./Rice Rd.	AM	A	A	NO	-	-
		PM	A	A	NO	-	-
17	North Range Rd./111th St.	AM	A	**F**	**YES**	B	NO
		PM	B	B	NO	-	-
18	North Range Rd./Ave. of the States	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
19	US Highway 1 Southbound/Ave. of the States	AM	D	**F**	**YES**	A	NO
		PM	**F**	**F**	NO	-	-
20	US Highway 1 Northbound/Tobacco Rd.	AM	**E**	**F**	NO	-	-
		PM	**E**	**F**	NO	-	-

Notes: **Bold** values indicate intersections operating at LOS E or F.
Bold and shaded values indicate substantial project effect.
(a) LOS calculations are based on the methodology outlined in the Highway Capacity Manual and National Cooperative Highway Research Program Report 672, and performed using Synchro 8 and the Georgia Department of Transportation Roundabout Analysis Tool version 2.1.
LOS = Level of Service

Alternative E would not result in any substantial effect at any of the 15 remaining intersections in the ROI. While implementation of Alternative E has the potential to result in significant adverse traffic impacts to select intersections, the application of the proposed mitigation measures described in Table 5-9 and detailed further in Appendix D would lessen the projected traffic impacts to a LOS D or better. It is also recommended that additional traffic surveys be conducted following implementation of Alternative E, if selected as the course of action, to confirm projected traffic conditions and identify further measures to minimize traffic impacts.

5.12.6 Alternative F

As shown in Table 5-12, Alternative F would result in substantial effects at the following intersections:

- Barnes Ave./19th St.
- Barnes Ave./25th St.
- US Highway 1 Southbound/Ave. of the States

Table 5-12: Intersection Level of Service and Effects Summary, Alternative F (Fort Gordon)							
ID	Intersection	Peak Hour	Baseline	Alt. F	Substantial Effect?	Alt. F with Mitigation	Substantial Effect with Mitigation?
			LOS (a)	LOS (a)		LOS (a)	
1	Gordon Highway/13th St.	AM	**F**	**F**	NO	-	-
		PM	D	D	NO	-	-
2	Gordon Highway/19th St.	AM	**E**	**E**	NO	-	-
		PM	**F**	**F**	NO	-	-
3	Gordon Highway/7th Ave.	AM	D	D	NO	-	-
		PM	**F**	**F**	NO	-	-
4	13th St./19th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
5	Chamberlain Ave./15th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
6	Chamberlain Ave./19th St.	AM	D	D	NO	-	-
		PM	**F**	**F**	NO	-	-
7	Chamberlain Ave./25th St.	AM	C	D	NO	-	-
		PM	**E**	**E**	NO	-	-
8	Chamberlain Ave./Rice Rd.	AM	B	B	NO	-	-
		PM	D	D	NO	-	-
9	Chamberlain Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
10	Barnes Ave./19th St.	AM	**F**	**F**	NO	-	-
		PM	C	**E**	**YES**	D	NO
11	Barnes Ave./25th St.	AM	D	**F**	**YES**	B	NO
		PM	C	**E**	**YES**	A	NO
12	Brainard Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
13	Lane Ave./15th St.	AM	**E**	**E**	NO	-	-
		PM	**E**	**E**	NO	-	-
14	Lane Ave./19th St.	AM	C	C	NO	-	-
		PM	**E**	**E**	NO	-	-
15	Lane Ave./25th St	AM	D	D	NO	-	-
		PM	**F**	**F**	NO	-	-
16	Lane Ave./Rice Rd.	AM	A	A	NO	-	-
		PM	A	A	NO	-	-
17	North Range Rd./111th St.	AM	A	A	NO	-	-
		PM	B	B	NO	-	-
18	North Range Rd./Ave. of the States	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
19	US Highway 1 Southbound/Ave. of the States	AM	D	**F**	**YES**	A	NO
		PM	**F**	**F**	NO	-	-

Table 5-12: Intersection Level of Service and Effects Summary, Alternative F (Fort Gordon)							
ID	**Intersection**	**Peak Hour**	**Baseline**	**Alt. F**	**Substantial Effect?**	**Alt. F with Mitigation**	**Substantial Effect with Mitigation?**
20	US Highway 1 Northbound/Tobacco Rd.	AM	**E**	**F**	NO	-	-
		PM	**E**	**F**	NO	-	-

Notes: **Bold** values indicate intersections operating at LOS E or F.
Bold and shaded values indicate substantial project effect.
(a) LOS calculations are based on the methodology outlined in the Highway Capacity Manual and National Cooperative Highway Research Program Report 672, and performed using Synchro 8 and the Georgia Department of Transportation Roundabout Analysis Tool version 2.1.
LOS = Level of Service

Alternative F would not result in any substantial effect at any of the 17 remaining intersections in the ROI. While implementation of Alternative F has the potential to result in significant adverse traffic impacts to select intersections, the application of the proposed mitigation measures described in Table 5-9 and detailed further in Appendix D would lessen the projected traffic impacts to a LOS D or better. It is also recommended that additional traffic surveys be conducted following implementation of Alternative F, if selected as the course of action, to confirm projected traffic conditions and identify further measures to minimize traffic impacts.

5.12.7 Alternative G

As shown in Table 5-13, Alternative G would result in substantial effects at the following intersections:

- Chamberlain Ave./25th St.
- Chamberlain Ave./Rice Rd.
- Barnes Ave./19th St.
- Barnes Ave./25th St.
- Lane Ave./25th St.
- US Highway 1 Southbound/Ave. of the States

Table 5-13: Intersection Level of Service and Effects Summary, Alternative G (Fort Gordon)							
ID	**Intersection**	**Peak Hour**	**Baseline**	**Alt. G**	**Substantial Effect?**	**Alt. G with Mitigation**	**Substantial Effect with Mitigation?**
			LOS (a)	**LOS (a)**		**LOS (a)**	
1	Gordon Highway/13th St.	AM	**F**	**F**	NO	-	-
		PM	D	D	NO	-	-
2	Gordon Highway/19th St.	AM	**E**	**E**	NO	-	-
		PM	**F**	**F**	NO	-	-
3	Gordon Highway/7th Ave.	AM	D	D	NO	-	-
		PM	**F**	**F**	NO	-	-
4	13th St./19th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-

Table 5-13: Intersection Level of Service and Effects Summary, Alternative G (Fort Gordon)							
ID	**Intersection**	**Peak Hour**	**Baseline**	**Alt. G**	**Substantial Effect?**	**Alt. G with Mitigation**	**Substantial Effect with Mitigation?**
			LOS (a)	**LOS (a)**		**LOS (a)**	
5	Chamberlain Ave./15th St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
6	Chamberlain Ave./19th St.	AM	D	D	NO	-	-
		PM	**F**	**F**	NO	-	-
7	Chamberlain Ave./25th St.	AM	C	**F**	**YES**	D	NO
		PM	**E**	**F**	NO	-	-
8	Chamberlain Ave./Rice Rd.	AM	B	B	NO	-	-
		PM	D	**E**	**YES**	D	NO
9	Chamberlain Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
10	Barnes Ave./19th St.	AM	**F**	**F**	NO	-	-
		PM	C	**E**	**YES**	B	NO
11	Barnes Ave./25th St.	AM	D	**F**	**YES**	B	NO
		PM	C	**F**	**YES**	D	NO
12	Brainard Ave./Kilbourne St.	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
13	Lane Ave./15th St.	AM	**E**	**E**	NO	-	-
		PM	**E**	**E**	NO	-	-
14	Lane Ave./19th St.	AM	C	D	NO	-	-
		PM	**E**	**F**	NO	-	-
15	Lane Ave./25th St	AM	D	**F**	**YES**	A	NO
		PM	**F**	**F**	NO	-	-
16	Lane Ave./Rice Rd.	AM	A	A	NO	-	-
		PM	A	A	NO	-	-
17	North Range Rd./111th St.	AM	A	A	NO	-	-
		PM	B	B	NO	-	-
18	North Range Rd./Ave. of the States	AM	**F**	**F**	NO	-	-
		PM	**F**	**F**	NO	-	-
19	US Highway 1 Southbound/Ave. of the States	AM	D	**F**	**YES**	A	NO
		PM	**F**	**F**	NO	-	-
20	US Highway 1 Northbound/Tobacco Rd.	AM	**E**	**F**	NO	-	-
		PM	**E**	**F**	NO	-	-

Notes: **Bold** values indicate intersections operating at LOS E or F.
Bold and shaded values indicate substantial project effect.
(a) LOS calculations are based on the methodology outlined in the Highway Capacity Manual and National Cooperative Highway Research Program Report 672, and performed using Synchro 8 and the Georgia Department of Transportation Roundabout Analysis Tool version 2.1.
LOS = Level of Service

Alternative G would not result in any substantial effect at any of the 14 remaining intersections in the ROI. While implementation of Alternative G has the potential to result in significant adverse traffic impacts to select intersections, the application of the proposed mitigation measures described in Table 5-9 and detailed further in Appendix D would lessen the projected traffic impacts to a LOS D or better. It is also recommended that additional traffic surveys be conducted following implementation of Alternative G, if selected as the course of action, to confirm projected traffic conditions and identify further measures to minimize traffic impacts.

5.12.8 No Action

Under the No-Action Alternative, ARCYBER would not construct a new facility, and existing conditions would remain unchanged.

5.13 INFRASTRUCTURE AND UTILITIES

5.13.1 Alternative A

Short-term minor impacts to potable water, wastewater, electrical, and communication utilities would be expected during construction as existing lines are accessed for connecting new service lines.

Using a conservative consumption rate of 70 GPD per person (WSSC, 2012), it is estimated that the addition of approximately 1,500 workers would create a long-term demand for approximately 105,000 GPD or 0.105 MGD. This estimate is approximately 1.5 percent of the water treatment plant's (WTP) design capacity. The WTP has a design capacity of 7.2 MGD and is currently operating at approximately 2.4 MGD (Atkins, 2011). The system is capable of handling the additional requirement. No long-term impacts to the water supply system are anticipated by adding this demand to the existing system. Possible localized short-term disruptions to water service could result from construction activities as existing buried water lines are accessed for connecting new water service lines to the Proposed Action.

The alternative would have no long-term impact on the sanitary sewer/wastewater facilities at Fort Meade. Additional restroom facilities would be constructed as needed at the project area. This would result in a negligible increase in sewage loads to the sewage treatment system at Fort Meade. With an average load of approximately 13 GPD per person (USEPA, 2010), it is estimated that the addition of approximately 1,500 workers to Fort Meade would create an increase of approximately 19,500 GPD. This amounts to approximately 0.15 percent of the capacity of the system. The design flow of the existing system at Fort Meade is 12.3 MGD and is currently averaging 2.5 MGD (USACE, 2007). Possible localized short-term disruptions to service could result from construction activities due to accessing the existing underground sanitary sewer lines for connecting new lines.

An analysis of water requirements will be conducted for cooling systems, fire suppression and other needs will be conducted to determine if there is a need for a cooling tower.

The new facility would require electric service for high density use for the complex needs of communication and security. The alternative is not anticipated to have long-term impacts on the

electrical system at Fort Meade. The distribution system is currently operating below capacity and the new demand would not exceed this capacity. Possible short-term impacts associated with construction and the relocation of electrical lines could occur. These would cease with the completion of construction activities.

Short-term and long-term impacts to solid waste generation would be expected from this action. Any construction debris generated would be disposed of in accordance with relevant Federal, state, local, and installation regulations. Construction material would be recycled or reused to the greatest extent possible. Debris that cannot be recycled or reused would be taken off-Post by the contractor to an approved landfill. Long-term minor impacts to solid waste generation would be expected from the increase in workforce.

5.13.2 Alternative B

Short-term minor impacts to potable water, wastewater, electrical, and communication utilities would be expected during construction as existing lines are accessed for connecting new service lines.

Using a conservative consumption rate of 70 GPD per person (WSSC, 2012), it is estimated that the addition of approximately 1,500 workers would create a long-term demand for approximately 105,000 GPD or 0.105 MGD. This estimate is approximately 1.5 percent of the water treatment plant's (WTP) design capacity. The WTP has a design capacity of 7.2 MGD and is currently operating at approximately 2.4 MGD (Atkins, 2011). The system is capable of handling the additional requirement. No long-term impacts to the water supply system are anticipated by adding this demand to the existing system. Possible localized short-term disruptions to water service could result from construction activities as existing buried water lines are accessed for connecting new water service lines to the Proposed Action.

The alternative would have no long-term impact on the sanitary sewer/wastewater facilities at Fort Meade. Additional restroom facilities would be constructed as needed at the project area. This would result in a negligible increase in sewage loads to the sewage treatment system at Fort Meade. With an average load of approximately 13 GPD per person (USEPA, 2010), it is estimated that the addition of approximately 1,500 workers to Fort Meade would create an increase of approximately 19,500 GPD. This amounts to approximately 0.15 percent of the capacity of the system. The design flow of the existing system at Fort Meade is 12.3 MGD and is currently averaging 2.5 MGD (USACE, 2007). Possible localized short-term disruptions to service could result from construction activities due to accessing the existing underground sanitary sewer lines for connecting new lines.

An analysis of water requirements will be conducted for cooling systems, fire suppression and other needs will be conducted to determine if there is a need for a cooling tower.

The new facility would require electric service for high density use for the complex needs of communication and security. The alternative is not anticipated to have long-term impacts on the electrical system at Fort Meade. The distribution system is currently operating below capacity and the new demand would not exceed this capacity. Possible short-term impacts associated with

construction and the relocation of electrical lines could occur. These would cease with the completion of construction activities.

Short-term and long-term impacts to solid waste generation would be expected from this action. Any construction and demolition debris generated would be disposed of in accordance with relevant Federal, state, local, and installation regulations. Construction material would be recycled or reused to the greatest extent possible. Debris that cannot be recycled or reused would be taken off-Post by the contractor to an approved landfill. Long-term minor impacts to solid waste generation would be expected from the increase in workforce.

5.13.3 Alternative C

Short-term disruptions to water, sewer, and electrical services could be experienced within the project locale at Fort Gordon as these serviced are augmented to allow the construction of the facilities proposed under this alternative.

Using a conservative consumption rate of 70 GPD per person (WSSC, 2012), it is estimated that the addition of approximately 1,500 workers would create a long-term demand for approximately 105,000 GPD or 0.105 MGD. Similarly, with the increased demand for an average wastewater load of approximately 13 GPD per person, it is estimated that the addition of approximately 1,500 workers to Fort Gordon would create an increase of approximately 19,500 GPD. The existing utility systems have adequate capacity for this increased demand. The electrical supply to Fort Gordon is adequate for the needs associated by this action.

Short-term and long-term impacts to solid waste generation would be expected from this action. Any construction debris generated would be disposed of in accordance with relevant Federal, state, local, and installation regulations. Construction material would be recycled or reused to the greatest extent possible. Debris that cannot be recycled or reused would be taken off-Post by the contractor to an approved landfill. Long-term minor impacts to solid waste generation would be expected from the increase in workforce.

5.13.4 Alternative D

Short-term disruptions to water, sewer, and electrical services could be experienced within the project locale at Fort Gordon as these serviced are augmented to allow the construction of the facilities proposed under this alternative.

Using a conservative consumption rate of 70 GPD per person (WSSC, 2012), it is estimated that the addition of approximately 1,500 workers would create a long-term demand for approximately 105,000 GPD or 0.105 MGD. Similarly, with the increased demand for an average wastewater load of approximately 13 GPD per person, it is estimated that the addition of approximately 1,500 workers to Fort Gordon would create an increase of approximately 19,500 GPD. The existing utility systems have adequate capacity for this increased demand. The electrical supply to Fort Gordon is adequate for the needs associated by this action.

Short-term and long-term impacts to solid waste generation would be expected from this action. Any construction debris generated would be disposed of in accordance with relevant Federal,

state, local, and installation regulations. Construction material would be recycled or reused to the greatest extent possible. Debris that cannot be recycled or reused would be taken off-Post by the contractor to an approved landfill. Long-term minor impacts to solid waste generation would be expected from the increase in workforce.

5.13.5 Alternative E

Short-term disruptions to water, sewer, and electrical services could be experienced within the project locale at Fort Gordon as these serviced are augmented to allow the construction of the facilities proposed under this alternative.
Using a conservative consumption rate of 70 GPD per person (WSSC, 2012), it is estimated that the addition of approximately 1,500 workers would create a long-term demand for approximately 105,000 GPD or 0.105 MGD. Similarly, with the increased demand for an average wastewater load of approximately 13 GPD per person, it is estimated that the addition of approximately 1,500 workers to Fort Gordon would create an increase of approximately 19,500 GPD. The existing utility systems have adequate capacity for this increased demand. The electrical supply to Fort Gordon is adequate for the needs associated by this action.

Short-term and long-term impacts to solid waste generation would be expected from this action. Any construction and demolition debris generated would be disposed of in accordance with relevant Federal, state, local, and installation regulations. Construction material would be recycled or reused to the greatest extent possible. Debris that cannot be recycled or reused would be taken off-Post by the contractor to an approved landfill. Long-term minor impacts to solid waste generation would be expected from the increase in workforce.

5.13.6 Alternative F

Short-term disruptions to water, sewer, and electrical services could be experienced within the project locale at Fort Gordon as these serviced are augmented to allow the construction of the facilities proposed under this alternative.

Using a conservative consumption rate of 70 GPD per person (WSSC, 2012), it is estimated that the addition of approximately 1,500 workers would create a long-term demand for approximately 105,000 GPD or 0.105 MGD. Similarly, with the increased demand for an average wastewater load of approximately 13 GPD per person, it is estimated that the addition of approximately 1,500 workers to Fort Gordon would create an increase of approximately 19,500 GPD. The existing utility systems have adequate capacity for this increased demand. The electrical supply to Fort Gordon is adequate for the needs associated by this action.

Short-term and long-term impacts to solid waste generation would be expected from this action. Any construction debris generated would be disposed of in accordance with relevant Federal, state, local, and installation regulations. Construction material would be recycled or reused to the greatest extent possible. Debris that cannot be recycled or reused would be taken off-Post by the contractor to an approved landfill. Long-term minor impacts to solid waste generation would be expected from the increase in workforce.

5.13.7 Alternative G

Short-term disruptions to water, sewer, and electrical services could be experienced within the project locale at Fort Gordon as these serviced are augmented to allow the construction of the facilities proposed under this alternative.

Using a conservative consumption rate of 70 GPD per person (WSSC, 2012), it is estimated that the addition of approximately 1,500 workers would create a long-term demand for approximately 105,000 GPD or 0.105 MGD. Similarly, with the increased demand for an average wastewater load of approximately 13 GPD per person, it is estimated that the addition of approximately 1,500 workers to Fort Gordon would create an increase of approximately 19,500 GPD. The existing utility systems have adequate capacity for this increased demand. The electrical supply to Fort Gordon is adequate for the needs associated by this action.

Short-term and long-term impacts to solid waste generation would be expected from this action. Any construction debris generated would be disposed of in accordance with relevant Federal, state, local, and installation regulations. Construction material would be recycled or reused to the greatest extent possible. Debris that cannot be recycled or reused would be taken off-Post by the contractor to an approved landfill. Long-term minor impacts to solid waste generation would be expected from the increase in workforce.

5.13.8 No Action

No impacts are expected as a result of implementing the No Action alternative. Existing conditions would remain the same with the No Action alternative.

5.14 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN

This socioeconomic impact analysis focuses on construction costs and the local economic benefit consequent to increases in personnel. Economic impacts are defined to include direct effects, such as changes to employment and expenditures that affect the flow of dollars into the local economy and indirect effects, which result from the “ripple effect” of spending and re-spending in response to the direct effects. Induced impacts are the result of spending of the wages and salaries of the direct and indirect employees on items such as food, housing, transportation, and medical services. This spending creates induced employment in nearly all sectors of the economy, especially service sectors, and can flow outside of the region of influence. Results of economic impact analysis presented in this EA are all positive in nature. There are no expected detrimental economic impacts associated with any alternative, whether at Fort Meade or Fort Gordon. Therefore, for all economic impact results presented, impacts are expected to be beneficial.

This analysis also addresses potential disproportionately high and adverse impacts to minority and/or low income populations consistent with EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and environmental health and safety risks to children consistent with EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

5.14.1 Alternative A

5.14.1.1 Jobs

Table 5-14 presents jobs impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of 656 jobs would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; 1,149 jobs would be generated in 2017. Operations would ramp up continually during 2018; the number of total jobs would grow throughout the year, with an estimated 1,373 jobs generated over the course of the year. The year 2019 represents the first full year of full operations; 2,286 jobs would be generated annually in 2019 and every year for the foreseeable future.

Table 5-14: Jobs Impact from Combined Construction and Operations, 2015-2019

Impact	2015	2016	2017	2018	2019*
Direct	193	402	723	909	1,514
Indirect/Induced	120	254	426	464	772
Total	**313**	**656**	**1,149**	**1,373**	**2,286**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

5.14.1.2 Labor Income

Table 5-15 presents labor income impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $37,900,788 in labor income would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $76,809,019 in labor income would be generated in 2017. Operations would ramp up continually during 2018; the amount of labor income generated would grow throughout the year, with an estimated $104,321,175 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $173,696,002 in labor income would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER.

Table 5-15: Labor Income Impact from Combined Construction and Operations, 2015-2019, Constant 2014 Dollars

	2015	2016	2017	2018	2019*
Direct	$11,775,173	$25,181,578	$58,237,126	$84,957,730	$141,471,869
Indirect/Induced	$6,042,950	$12,719,210	$18,571,893	$19,363,446	$32,224,133
Total	**$17,818,123**	**$37,900,788**	**$76,809,019**	**$104,321,175**	**$173,696,002**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

5.14.1.3 Economic Output

Table 5-16 presents economic output impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $97,237,418 in economic output would be generated by the

construction activities. The year 2017 would consist of both construction and operations activities; $159,589,892 in economic output would be generated in 2017. Operations would ramp up continually during 2018; the amount of economic output generated would grow throughout the year, with an estimated $197,227,085 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $328,349,665 in economic output would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER.

Table 5-16: Economic Output Impact from Combined Construction and Operations, 2015-2019, Constant 2014 Dollars

	2015	2016	2017	2018	2019*
Direct	$30,676,531	$64,386,627	$108,333,334	$141,231,811	$235,155,106
Indirect/Induced	$15,566,887	$32,850,940	$51,256,558	$55,995,274	$93,194,559
Total	**$46,243,418**	**$97,237,567**	**$159,589,892**	**$197,227,085**	**$328,349,665**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

5.14.1.4 Environmental Justice

Economic impacts from the project are expected to be positive and would, generally, stimulate the economy of the region through the creation of jobs, income, and economic output. While many of the jobs created would be taken by people in-migrating to the area for the purposes of working at ARCYBER, many jobs would be available to current residents of the area who are either currently unemployed or underemployed. The additional employment opportunities would be open for application to all racial groups at all levels of income.

This EA has identified no adverse environmental or health effects that would disproportionately affect minority or low-income populations. No environmental justice impacts would occur as a result of implementation of the proposed project.

5.14.1.5 Protection of Children

This EA has identified no adverse environmental health and safety risks that would disproportionately affect children.

5.14.2 Alternative B

Impacts under the proposed Alternative B would be the same as under the proposed Alternative A.

5.14.3 Alternative C

5.14.3.1 Jobs

Table 5-17 presents jobs impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of 599 jobs would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; 1,026 jobs would be generated

in 2017. Operations would ramp up continually during 2018; the number of total jobs would grow throughout the year, with an estimated 1,232 jobs generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum 2,029 jobs would be generated annually in 2019 and every year for the foreseeable future if upwards of 1,500 people are employed at ARCYBER.

Table 5-17: Jobs Impact from Combined Construction and Operations, 2015-2019

Impact	2015	2016	2017	2018	2019*
Direct	202	423	735	909	1,514
Indirect/Induced	83	175	291	323	515
Total	**285**	**599**	**1,026**	**1,232**	**2,029**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

5.14.3.2 Labor Income

Table 5-18 presents labor income impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $27,526,175 in labor income would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $62,212,780 in labor income would be generated in 2017. Operations would ramp up continually during 2018; the amount of labor income generated would grow throughout the year, with an estimated $96,721,246 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $154,331,368 in labor income would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER.

Table 5-18: Labor Income Impact from Combined Construction and Operations, 2015-2019, Constant 2014 Dollars

Impact	2015	2016	2017	2018	2019*
Direct	$9,480,441	$20,176,026	$51,286,681	$84,869,423	$135,430,015
Indirect/Induced	$3,483,783	$7,350,149	$10,926,099	$11,851,824	$18,901,353
Total	**$12,964,224**	**$27,526,175**	**$62,212,780**	**$96,721,246**	**$154,331,368**

*Note:**Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

5.14.3.3 Economic Output

Table 5-19 presents economic output impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $81,387,177 in economic output would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $135,850,166 in economic output would be generated in 2017. Operations would ramp up continually during 2018; the amount of economic output generated would grow throughout the year, with an estimated $180,396,813 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $287,803,673 in economic output would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER.

Table 5-19: Economic Output Impact from Combined Construction and Operations, 2015-2019, Constant 2014 Dollars					
Impact	**2015**	**2016**	**2017**	**2018**	**2019***
Direct	$28,222,409	$59,235,697	$102,686,292	$143,745,964	$229,349,845
Indirect/Induced	$10,509,283	$22,151,480	$33,163,874	$36,650,848	$58,453,828
Total	**$38,731,692**	**$81,387,177**	**$135,850,166**	**$180,396,813**	**$287,803,673**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

5.14.3.4 Environmental Justice

Economic impacts from the project are expected to be positive and would, generally, stimulate the economy of the region through the creation of jobs, income, and economic output. While many of the jobs created would be taken by people in-migrating to the area for the purposes of working at ARCYBER, many jobs would be available to current residents of the area who are either currently unemployed or underemployed. The additional employment opportunities would be open for application to all racial groups at all levels of income.

This EA has identified no adverse environmental or health effects that would disproportionately affect minority or low-income populations. No environmental justice impacts would occur as a result of implementation of the proposed project.

5.14.3.5 Protection of Children

This EA has identified no adverse environmental health and safety risks that would disproportionately affect children.

5.14.4 Alternative D

5.14.4.1 Jobs

Table 5-20 presents jobs impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of 176 jobs would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; 864 jobs would be generated in 2017. Operations would ramp up continually during 2018; the number of total jobs would grow throughout the year, with an estimated 1,235 jobs generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum 2,033 jobs would be generated annually in 2019 and every year for the foreseeable future if upwards of 1,500 people are employed at ARCYBER.

Table 5-20: Jobs Impact from Combined Construction and Operations, 2015-2019					
Impact	**2015**	**2016**	**2017**	**2018**	**2019***
Direct	50	123	617	911	1,517
Indirect/Induced	54	119	271	323	516
Total	**71**	**176**	**864**	**1,235**	**2,033**

*Note:**Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

5.14.4.2 Labor Income

Table 5-21 presents labor income impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $8,398,104 in labor income would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $55,689,374 in labor income would be generated in 2017. Operations would ramp up continually during 2018; the amount of labor income generated would grow throughout the year, with an estimated $96,841,653 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $154,532,046 in labor income would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER.

Table 5-21: Labor Income Impact from Combined Construction and Operations, 2015-2019, Constant 2014 Dollars

Impact	2015	2016	2017	2018	2019*
Direct	$2,356,872	$6,198,479	$46,599,688	$84,962,215	$135,584,669
Indirect/Induced	$866,081	$2,199,625	$9,089,686	$11,879,439	$18,947,377
Total	**$3,222,953**	**$8,398,104**	**$55,689,374**	**$96,841,653**	**$154,532,046**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

5.14.4.3 Economic Output

Table 5-22 presents economic output impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $24,052,003 in economic output would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $116,080,900 in economic output would be generated in 2017. Operations would ramp up continually during 2018; the amount of economic output generated would grow throughout the year, with an estimated $180,706,677 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $288,320,113 in economic output would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER.

Table 5-22: Economic Output Impact from Combined Construction and Operations, 2015-2019, Constant 2014 Dollars

Impact	2015	2016	2017	2018	2019*
Direct	$7,016,192	$17,442,449	$88,509,691	$143,973,166	$229,728,514
Indirect/Induced	$2,612,645	$6,609,554	$27,571,209	$36,733,511	$58,591,599
Total	**$9,628,837**	**$24,052,003**	**$116,080,900**	**$180,706,677**	**$288,320,113**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

5.14.4.4 Environmental Justice

Economic impacts from the project are expected to be positive and would, generally, stimulate the economy of the region through the creation of jobs, income, and economic output. While many of the jobs created would be taken by people in-migrating to the area for the purposes of

working at ARCYBER, many jobs would be available to current residents of the area who are either currently unemployed or underemployed. The additional employment opportunities would be open for application to all racial groups at all levels of income.

This EA has identified no adverse environmental or health effects that would disproportionately affect minority or low-income populations. No environmental justice impacts would occur as a result of implementation of the proposed project.

5.14.4.5 Protection of Children

This EA has identified no adverse environmental health and safety risks that would disproportionately affect children.

5.14.5 Alternative E

Impacts under the proposed Alternative E would be the same as under the proposed Alternative C.

5.14.6 Alternative F

Impacts under the proposed Alternative F would be the same as under the proposed Alternative C.

5.14.7 Alternative G

Impacts under the proposed Alternative G would be the same as under the proposed Alternative C.

5.14.8 No Action

Under the No-Action Alternative, the proposed ARCYBER Command and Control Facility would not be constructed and operated. Existing conditions in Anne Arundel County and Richmond County would be unchanged.

5.15 CUMULATIVE IMPACTS

5.15.1 Definition of Cumulative Impacts

CEQ regulations stipulate that the cumulative impacts analysis within an EA should consider the potential environmental impacts resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). CEQ guidance in Considering Cumulative Impacts affirms this requirement, stating that the first steps in assessing cumulative impacts involve defining the scope of the other actions and their interrelationship with the proposed action. The scope must consider geographic and temporal overlaps among the proposed action and other actions. It must also evaluate the nature of interactions among these actions.

Cumulative impacts are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the proposed action would be expected to have more potential for a relationship than those more geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative impacts.

To identify cumulative impacts the analysis needs to address three fundamental questions:

1. Does a relationship exist such that affected resource areas of the proposed action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
2. If one or more of the affected resource areas of the proposed action and another action could be expected to interact, would the proposed action affect or be affected by impacts of the other action?
3. If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

5.15.2 Cumulative Impacts Analysis

The scope of the cumulative impacts analysis involves both the geographic extent of the impacts and the time frame in which the impacts could be expected to occur. For this EA, the ROI delimits the geographic extent of the cumulative impacts analysis. Due to the geographic scope and relatively locally isolated environmental interactions that are anticipated, the ROI for this cumulative impacts analysis is the same for each resource as previously described in Chapter 4. The time frame for cumulative impacts centers on the timing of the proposed action; specifically, construction (interior or exterior) would begin in FY15 and personnel would begin working at Fort Gordon in FY19.

Another factor influencing the scope of cumulative impacts analysis involves identifying other actions to consider. Beyond determining that the geographic scope and time frame for the actions interrelate to the proposed action, the analysis employs the measure of "reasonably foreseeable" to include or exclude other actions. For the purposes of this analysis, public documents prepared by federal, state and local government agencies form the primary sources of information regarding reasonably foreseeable actions. Documents used to identify other actions included notices of intent to prepare NEPA documents (i.e., EISs and EAs), management plans, land use plans, and other related planning studies. Those actions occurring or planned to occur near the area of potential effect that could impact traffic conditions (i.e., increase personnel) at Fort Meade and near the proposed ARCYBER facility site in particular are considered potential cumulative actions for this project; those projects are listed in Table 5-23. Similar work for Fort Gordon is shown in Table 5-24.

Table 5-23: Cumulative Actions at Fort Meade, Maryland

Project	Description	NEPA Documentation
Army and Air Force Exchange Services (AAFES)	Demolition of AAFES shopping center and parking lot at Reece Road and MacArthur Road and construction of a new 169,000 SF building at the same site.	REC

Table 5-23: Cumulative Actions at Fort Meade, Maryland		
Project	**Description**	**NEPA Documentation**
Asymmetric Warfare Group (AWG) Compound and Motor Pool Site	Construction and operation of an AWG Compound providing administrative, operational, and storage areas, and construction of a Motor Pool Site (a vehicle maintenance facility). The AWG Compound is proposed for an approximately 46-acre parcel of land on Fort Meade, in Anne Arundel County, Maryland with an associated structure on an additional, adjacent 4-acre parcel.	EA
BGE Substation	Construction of a new electrical substation and supporting infrastructure to support future expansion. Approximately 22 acres of undeveloped land and forest would be disturbed.	EA
Construction and Operation of Single and Unaccompanied Personnel Apartments (Reece Crossings Apartments)	The Army would grant Picerne a 50-year lease of approximately 45 acres of land on which Picerne would construct and operate new garden-style apartments and associated facilities for single and unaccompanied personnel. Picerne would operate and maintain the new facilities during the lease period. Picerne would demolish the existing lodging facilities on the parcel.	EA
Defense Information School (DINFOS) Renovation and Expansion	Construction of a 60,273 SF multi-story addition to existing DINFOS building (Bldg 6500). Less than 5 acres of previously disturbed land would be impacted.	REC
East Campus	A portion of Fort Meade, known as Site M, would be developed as an operational complex for Intelligence Community use. The EIS addressed Phase I of this proposal which included 1.8 million square feet of facilities for a data center and associated administrative space for up to 6,500 personnel.	EIS
Howard County Water Reclamation Project	NSA, in coordination with Howard County's Department of Public Works, proposed to create a reclaimed water delivery system on Fort Meade property for the purpose of providing reclaimed water to cooling towers located on NSA's east and main campuses. Project would disturb approximately 14.5 acres of land.	EA
Mini Child Development Center	A 4,460 SF child development center has been proposed for construction at Fort Meade near the proposed SCIF. This facility would provide 24-hour care for up to 20 children at a time. The facility would support extended hours care for shift workers, respite, crisis, and overnight care for children of wounded soldiers.	REC
Privatization of Army Lodging	The Army would grant a short-term (7-year) lease for two existing lodging facilities and the land underlying them for building renovation and operation. One facility (Kuhn Hall) would be returned to the Army at the end of the lease. The other facility (Abrams Hall) would be demolished following coordination and approval from the Maryland Historic Trust, and the land would be returned to the Army at the end of the lease. The Army would grant a 46-year lease of an undeveloped 15.5-acre parcel of land for construction and operation of a new lodging facility. The Army also would convey select buildings under a separate support lease for short-term use by Rest Easy to maintain available lodging units while new lodging was being built.	EA
Water and Wastewater Systems Improvements	Upgrades to the water and wastewater treatment plants, including the conversion of the Wastewater Treatment Plant (WWTP) to a Biological Nitrogen Removal (BNR) system. Proposed pipe work includes replacing a minimum of 62,000 linear feet (LF) of	EA

Table 5-23: Cumulative Actions at Fort Meade, Maryland		
Project	**Description**	**NEPA Documentation**
	waterline, installing a minimum of 1,600 LF of new water line to expand service, and replacing a minimum of 2,024 LF of existing sewer piping. Other work includes installing fencing at wells and pump stations, installing emergency generators at wells, and replacing booster pumps, Also included is the construction of an approximately 6,000 square-foot slab on grade Operations Center near the existing water treatment plant.	
Widening of MD 175	Maryland Department of Transportation has allocated funding for several BRAC actions in MD to include widening MD175 from MD 295 to MD170. Bicycles and pedestrian accommodations will be provided where appropriate. The project would address current and future congestion along MD 175 and improve access to Fort Meade.	EA

Notes: EA = Environmental Assessment; EIS = Environmental Impact Statement; REC = Record of Environmental Consideration

Table 5-24: Cumulative Actions at Fort Gordon, Georgia		
Action	**Project Description**	**NEPA Documentation**
National Security Agency (NSA) – Georgia Cryptologic Center (CSS)	A NSA/CSS Georgia facility was constructed in FY10 at Fort Gordon between 15th Street and the western border of the 17th Street Landfill, and Lane and 111th Avenues. The facility is 525,000 ft^2, and staffing increased up to 3,500 military and civilian personnel.	EA
General Instruction Facility	Construct a 95,770 SF General Instruction Facility to include classrooms, instructors' offices, computer resource rooms and administrative offices.	REC
New Hotel	Construct a 320 room Candlewood Suites Hotel with 324 space parking lot.	EA
Youth Activities Center	Construct a 19,873 SF Youth Activities Center with capacity for 150 children to include Gymnasium, basketball courts, multi-purpose room, class rooms, patio area, and associated sidewalks.	REC
Post Exchange Expansion	The existing 92,000 SF Post Exchange (PX) building will be expanded on the existing site to a total of 177,000 SF under roof. Not only will the existing activities in the building be expanded, but activities currently located at the PXtra Complex (buildings 35200 thru 35206) will also be housed in the new consolidated facility.	REC
80th Training Command TASS Training Center	Construct a 38,000 SF High-Tech Regional Training Site Maintenance (HT RTS-Maint) Military Occupational Specialty (MOS) training building for a year round/full-time HT RTS-Maint schoolhouse unit of the 80th Training Command, at FT Gordon, GA to replace the units' current training facility in Tobyhanna, PA and augment USAR training space on Ft Gordon.	Pending
480th ISR Group HQ	Construct 18,000 sq ft facility to consolidate 6 AF ISR orgs into 1 command/admin/support facility with unclassified and SECRET collateral level security.	Pending
Student Barracks Replacement Phase II	Construct Phase 2 of a 3 - phased standard design Complex. Phase 2 includes two Barracks/Company Operations Facilities for 600 soldiers (300 each), a 1,300 personnel Dining Facility, a Lawn Equipment Building, and Physical Fitness Areas to include Physical Training pits and a quarter-mile running track.	REC

Table 5-24: Cumulative Actions at Fort Gordon, Georgia		
Action	**Project Description**	**NEPA Documentation**
AIT Barracks Replacement Phase III	Construct Phase 3 of a 3 - phased standard design AIT Complex. Phase 3 provides two Barracks with Company Operations Facilities for 600 soldiers (total), and a Battalion Headquarters.	REC
Training Barracks Upgrade Program	Renovation of 18 barracks, one brigade headquarters, four battalion headquarters, four dining facilities, and eight company administration buildings. Each barracks would accommodate 190 soldiers and consist of two-person suites. Project began in January 2008 and will be completed Spring 2016.	REC
Cyber Center of Excellence (CoE)	Establish a CoE at Fort Gordon, leveraging existing institutional and staff structure of the Signal Center of Excellence. This transition would create an estimated 50 to 100 new personnel requirements (depending on approved COA) at Fort Gordon and require modification to existing facilities in order to support specialized training in a SCIF'd classroom environment.	EA

Notes: EA = Environmental Assessment; REC = Record of Environmental Consideration

5.15.3 Potential Cumulative Impacts by Environmental Resource Area

5.15.3.1 Fort Meade

Land Use

The East Campus, BRAC actions, EUL actions, AWG compound, Reece Crossing Apartments, BGE Substation, and the Howard County Water Reclamation Project could cumulatively result in the loss of open space on Fort Meade. Implementation of Alternatives A or B would be consistent with existing designated land uses and policies. Moreover, the land identified for use under Alternative B is the same land designated for the East Campus project, is currently cleared, and no new cumulative impacts would occur. Implementation of Alternatives A or B would not contribute to any long-term significant adverse cumulative impacts.

Visual Resources and Aesthetics

Implementation of Alternatives A or B would have less than significant short-term and long-term impacts on the aesthetics and visual resources within the immediate area of the work. The vacant area is currently open space; however, the proposed construction is consistent with the proposed future development of the area. Moreover, views of the Installation are limited to personnel, contractors, and civilians working on or visiting the Installation, and these viewers are cognizant of the missions that occur at and near Fort Meade. Similarly, the projects described in Table 5-23 would not substantially change the existing visual condition and would be consistent with proposed development for the area. Therefore, implementation of Alternatives A or B would have no significant cumulative impact to visual resources and aesthetics.

Air Quality

In terms of short-term cumulative impacts, new construction associated with Alternatives A or B, as well as other construction projects could produce a short-term additive amount of emissions if

they occur concurrently; however, these projects are expected to produce only a nominal amount which would be below the *de minimis* levels and not regionally significant. Any potential overlaps in emissions would be dispersed over a large geographical area and would occur over multiple years. Furthermore, implementation of recommended fugitive dust control measures would minimize particulate matter emissions. In terms of long-term cumulative impacts, Section 5.3 includes a discussion of emissions due to vehicular use for the Proposed Action which were below the *de minimis* levels. Long-term adverse cumulative impacts would occur as a result of the East Campus, BRAC, and EUL actions which could add more than 23,000 personnel to Fort Meade. It would be necessary for the Metropolitan Planning Organization to include the changes in vehicle patterns for all regional actions when developing the Transportation Improvement Program.

In terms of GHG emissions, emissions from implementation of Alternatives A and B would be below the 25,000 metric tons of CO_2e level proposed in the draft NEPA guidance by the CEQ (CEQ, 2010). Annual emissions from the Proposed Action and other past, present, and future actions would not be large enough to have an appreciable effect on climate change. Therefore, cumulative impacts to global climate change from implementation of Alternatives A or B would not be significant.

Noise

Other construction projects have the potential to contribute cumulatively to the potential impacts associated with the construction or renovations proposed under the proposed action. However, it is assumed that any construction-related noise generated from other projects at Fort Meade would be temporary, lasting only the duration of the respective project(s) and would be confined to the installation boundaries. For example, construction noise would attenuate to background levels (conservatively, approximately 55 dB) in approximately 245 m (800 ft). In addition, noise from construction-related activities would be confined to general working hours (8:00 AM to 5:00 PM). There would be no significant long-term cumulative increases in noise from any project listed in Table 5-23. Therefore, no significant cumulative impacts associated with the implementation of Alternatives A or B are anticipated at this time.

Geology and Soils

Impacts to soil are localized and typically site-specific. The proposed construction-related projects, as well as other construction projects at Fort Meade are required to adhere to a site specific ESCP to ensure that soil erosion during construction is minimal. In addition, the ESCP and SWPPP would require the implementation of BMPs including using silt fencing, soil stabilization blankets, and matting around areas of land disturbance during construction. Bare soils would be vegetated after construction to reduce erosion and stormwater runoff velocities. Therefore, implementation of Alternatives A or B would not have any significant cumulative impacts on soils.

Water Resources

Short-term cumulative impacts to surface water quality from soil erosion during construction activities could occur if the projects are located in close proximity and time. Conservatively,

however, these impacts would be temporary and confined to the respective project areas as all projects are required to follow state and federal guidelines to ensure water quality is protected from possible erosion and sedimentation. This includes implementing project specific BMPs as part of the proposed construction projects to minimize impacts to water quality and using stormwater engineering controls (e.g., culvert/channels directing stormwater to retention basins) to decrease future impacts to water quality following construction. The use of ESCPs and SWPPPs during construction would also minimize impacts to water quality.

Long-term cumulative impacts to water resources are possible due to the increase in impervious surfaces for the new construction. EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, requires a 2-percent annual reduction in potable, industrial, landscaping, and agricultural water intensity by FY20. In addition, the EO requires that all new construction comply with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings*. This includes employing design and construction strategies that reduce stormwater runoff. Furthermore, Section 438 of the Energy Independence and Security Act of 2007 require that any development or redevelopment project involving a Federal facility with a footprint exceeding 5,000 square feet shall use site planning, design, construction, and maintenance strategies to maintain or restore the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow.

Overall, implementation of Alternatives A or B would not result in significant cumulative impacts on water resources.

Floodplains

None of the action alternatives are located within a 100- or 500-year floodplain. Therefore, there is no potential for cumulative impacts for implementation of Alternatives A or B.

Coastal Zone

Implementation of the Alternatives A or B would be consistent to the maximum extent possible with the enforceable policies of the Maryland Coastal Management Program and no significant impacts are expected.

Biological Resources

The Alternative A site location would be located within the open golf course in a developed area of the installation and the Alternative B site location would be located in an area previously cleared. Although there are ornamental, mature, and early successional trees at the sites, implementation of the proposed action would likely disturb grasses and herbaceous areas in the immediate vicinity of project site as the area is mostly cleared and there are plans to incorporate existing trees into the project design to the maximum extent possible. Therefore, it is unlikely for cumulative impacts to result from the removal of grasses and herbaceous areas when combined with other projects listed in Table 5-23 that would remove forested vegetated areas.

No impacts to federal- or state-listed threatened or endangered species would occur and there would be no potential for cumulative impacts. The impact of the proposed action on resident

wildlife would be additive to other stressors for these species, which include increasing urbanization and development in the area. Certain species, particularly bird species, could flee to nearby habitat during the construction phase of projects when habitat is disrupted and/or altered. However, given the temporary nature of construction-related impacts to wildlife and migratory birds and the likely separations in implementation timeframes, there is little potential for cumulative impact to resident wildlife from construction activities associated with the proposed action. Therefore, there would be no significant impacts to wildlife from implementation of Alternatives A or B.

Cultural Resources

No impacts to cultural resources would be anticipated from implementation of proposed alternatives; therefore, there is no potential for cumulative impacts for implementation of Alternatives A or B.

Hazardous, Toxic, and Radioactive Substances

Cumulative impacts associated with the amounts of hazardous materials used, toxic substances generated, or hazardous waste disposed would be short-term and managed in accordance with existing installation procedures, as well as federal and state standard operating procedures and regulatory requirements. Therefore, there would be no significant cumulative impacts to hazardous materials, toxic substances, or hazardous waste with the implementation of Alternatives A or B.

Traffic and Roadways

In terms of short-term cumulative impacts, construction traffic associated with the proposed action and other projects on Fort Meade could create additional, but temporary, impacts to traffic. The timing of these projects is not well-known, but if the projects are staggered, impacts would be negligible to minor for implementation of Alternatives A or B. However, even if the projects are not separated in time, the temporary increases in construction-related traffic would not likely result in a long-term disruption to current transportation patterns, nor would it change existing traffic safety.

Implementation of either proposed alternative would have long-term adverse cumulative impacts on traffic and roadways when combined with other actions at Fort Meade that would also increase personnel, including the East Campus, BRAC, and EUL actions. Combined, these projects could add more than 23,000 personnel to Fort Meade. This would result in long-term moderate to severe impacts to already degraded intersections at Fort Meade. It is recommended that identified roadway improvements be implemented and additional traffic surveys be conducted to confirm projected traffic conditions and identify further measures to minimize traffic impacts.

Infrastructure and Utilities

Implementation of Alternatives A or B would have less than significant impacts on infrastructure and utilities. Possible localized short-term disruptions to water service could result from

construction activities as existing buried water lines are accessed for connecting new water service lines to the Proposed Action. With the proposed improvements to the water and wastewater systems and infrastructure at the Fort, there would be no long-term impacts to sanitary sewer/wastewater facilities or electrical system. Cumulatively, the projects described in Table 5-23 would have less than significant impacts to infrastructure and utilities. Cumulative projects along with the proposed action would not create excess burden on systems. Consequently, cumulative impacts to infrastructure and utilities would not be significant.

Socioeconomics, Environmental Justice, and Protection of Children

Implementation of Alternatives A or B would have long-term moderate beneficial cumulative impacts on socioeconomics when combined with other actions at Fort Meade, including the East Campus, BRAC, and EUL actions. Combined, these projects could add more than 23,000 personnel to Fort Meade. This would result in short-term beneficial impacts from construction and long-term beneficial impacts from job creation, labor income, and economic output.

Implementation of proposed alternatives would not significantly impact human health or the environment or result in significant impacts to environmental justice and protection of children. The proposed action would comply with EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-income Populations*, which requires that "each Federal Agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health impacts of its programs, policies, and activities on minority populations and low income populations" (59 Federal Register, 1994). The proposed alternatives would have no impact on minority populations or low-income populations as defined in EO 12898. The proposed alternatives and all other cumulative projects listed in Table 5-23 would be required to comply with EO 12898; therefore, the proposed alternatives in conjunction with other past, present, and reasonably foreseeable projects would not impose disproportionately high and adverse human health impacts or displacement of or disproportionate cumulative impact to minority and low-income populations.

5.15.3.2 Fort Gordon

Land Use

Implementation of Alternatives C through G would have no significant impact on land use. Cumulatively, the projects described in Table 5-24 would all be consistent with designated land uses and policies and there would be no adverse impacts to land uses.

Visual Resources and Aesthetics

Implementation of Alternatives C through G would have no significant short-term and long-term cumulative impacts on the aesthetics and visual resources within the immediate area of the work. All the proposed site locations would be developed consistent with the proposed future development of the area. Moreover, views of the Installation are limited to personnel, contractors, and civilians working on or visiting the Installation, and these viewers are cognizant of the missions that occur at and near Fort Gordon. Similarly, the projects described in Table 5-24 would not substantially change the existing visual condition and would be consistent with

proposed development for the respective area. Therefore, implementation of Alternatives C through G would have no significant cumulative impact to visual resources and aesthetics.

Air Quality

In terms of short-term cumulative impacts, Alternatives C through G and other construction projects listed in Table 5-24 could produce a short-term additive amount of emissions if they are concurrent. However, as discussed in Section 5.3, the proposed construction is expected to produce a less than significant impact on regional emissions; therefore, it is not anticipated that air emissions from other past, present, and future construction projects, when considered incrementally with Alternatives C through G, would exceed any regulatory standards. This is especially true in a region already in attainment for all criteria pollutants.

In terms of long-term cumulative impacts, the proposed increase in personnel associated with the Alternatives C through G would correlate to an increase in the number of vehicles driven. However, with exception of the operations of the NSA/CSS Georgia facility and CoE, none of the other past, present, or reasonably foreseeable actions would affect the number of persons employed at Fort Gordon. While an incremental cumulative impact would result, the emissions would not exceed any regulatory standards.

Overall, there is the possibility of minor short- and long-term adverse cumulative impacts resulting from the implementation of Alternatives C through G at Fort Gordon. However, since regulatory standards would not be exceeded and the AQCR would continue to be attainment of all NAAQS standards, no significant cumulative impacts to air quality are anticipated from implementation Alternatives C through G.

In terms of GHG emissions, emissions from implementation of Alternatives C through G would be below the 25,000 metric tons of CO_2e level proposed in the draft NEPA guidance by the CEQ (CEQ, 2010). Annual emissions would be minor and less than significant, and would disperse quickly within the project area. In addition, these cumulative sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, cumulative impacts to global climate change from implementation of Alternatives C through G would not be significant.

Noise

Other construction projects have the potential to contribute to short-term cumulative impacts when added to the construction noise associated with the implementation of Alternatives C through G. However, it is assumed that any construction-related noise generated from other projects at Fort Gordon would be temporary, lasting only the duration of the respective project(s) and would be confined to the installation boundaries. For example, construction noise would attenuate to background levels (conservatively, approximately 55 dB) in approximately 245 m (800 ft). In addition, noise from construction-related activities would be confined to general working hours (8:00 AM to 5:00 PM). Therefore, no significant cumulative impacts associated with the implementation of Alternatives C through G are anticipated at this time.

Geology and Soils

Impacts to soil are localized and typically site-specific. The proposed construction-related projects, as well as other construction projects at Fort Gordon are required to adhere to a site specific ESCP to ensure that soil erosion during construction is minimal. In addition, the ESCP and SWPPP would require the implementation of BMPs including using silt fencing, soil stabilization blankets, and matting around areas of land disturbance during construction. Bare soils would be vegetated after construction to reduce erosion and stormwater runoff velocities. Therefore, implementation of Alternatives C through G would not have any significant cumulative impacts on soils.

Water Resources

Short-term cumulative impacts to surface water quality from soil erosion during construction activities could occur if the projects are located in close proximity and time. Conservatively, however, these impacts would be temporary and confined to the respective project areas as all projects are required to follow state and federal guidelines to ensure water quality is protected from possible erosion and sedimentation. This includes implementing project specific BMPs as part of the proposed construction projects to minimize impacts to water quality and using stormwater engineering controls (e.g., culvert/channels directing stormwater to retention basins) to decrease future impacts to water quality following construction. The use of ESCPs and SWPPPs during construction would also minimize impacts to water quality.

Long-term cumulative impacts to water resources are possible due to the increase in impervious surfaces for the new construction (i.e., Alternatives C, E, and F). EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, requires a 2-percent annual reduction in potable, industrial, landscaping, and agricultural water intensity by FY20. In addition, the EO requires that all new construction comply with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings*. This includes employing design and construction strategies that reduce stormwater runoff. Furthermore, Section 438 of the Energy Independence and Security Act of 2007 require that any development or redevelopment project involving a Federal facility with a footprint exceeding 5,000 square feet shall use site planning, design, construction, and maintenance strategies to maintain or restore the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow.

Overall, implementation of Alternatives C through G at Fort Gordon would not result in significant cumulative impacts on water resources.

Floodplains

None of the proposed alternatives are located within a 100- or 500-year floodplain. Therefore, there is no potential for cumulative impacts for implementation of Alternatives C through G.

Coastal Zone

Fort Gordon does not lie within the boundaries of the Georgia Coastal Management Program. Therefore, there is no potential for cumulative impacts for implementation of Alternatives C through G.

Biological Resources

Implementation of Alternatives C or G would require the removal of vegetation. Implementation of Alternatives D or E would occur in previously disturbed areas and negligible impacts to vegetation would occur. Other construction projects listed in Table 5-24 would also require the removal of vegetation at Fort Gordon's cantonment area. Removing natural vegetation would have corresponding impacts to resident wildlife since developing open land permanently removes habitat and displaces resident wildlife. Impacts to vegetation would result in a cumulative impact, but land use planning in accordance with the Installation's INRMP would ensure the preservation of natural land and control growth. As such, when incrementally considering impacts of past, present, and future actions, it was determined there would be no significant cumulative impacts to vegetation from the implementation of Alternatives C or G.

Short-term impacts to federal- or state-listed threatened or endangered species would occur, however, these impacts would be temporary and confined to the respective project areas and there would be no potential for cumulative impacts. The impact of the proposed action on resident wildlife would be additive to other stressors for these species, which include increasing urbanization and development in the area. Certain species, particularly bird species, could flee to nearby habitat during the construction phase of projects when habitat is disrupted and/or altered. However, given the temporary nature of construction-related impacts to wildlife and migratory birds and the likely separations in implementation timeframes, there is little potential for cumulative impact to resident wildlife from construction activities associated with the proposed alternatives. Therefore, there would be no significant impacts to wildlife from implementation of Alternatives C through G.

Cultural Resources

No impacts to cultural resources would be anticipated from implementation of the proposed alternatives. Therefore, there is no potential for cumulative impacts from implementation of Alternatives C through G.

Hazardous, Toxic, and Radioactive Substances

Cumulative impacts associated with the amounts of hazardous materials used, toxic substances generated, or hazardous waste disposed would be short-term and managed in accordance with existing installation procedures, as well as federal and state standard operating procedures and regulatory requirements. Therefore, there would be no significant cumulative impacts to hazardous materials, toxic substances, or hazardous waste with the implementation of Alternatives C through G.

Traffic and Roadways

In terms of short-term cumulative impacts, construction traffic associated with the implementation of Alternatives C through G and other projects on Fort Gordon could create additional, but temporary, impacts to traffic. The timing of these projects is not well-known, but if the projects are staggered, impacts would be negligible to minor. However, even if the projects are not separated in time, the temporary increases in construction-related traffic would not likely result in a long-term disruption to current transportation patterns, nor would it change existing traffic safety as construction trucks would be required to enter and exit Fort Gordon through Gate 3.

In terms of long-term cumulative impacts, none of the projects listed Table 5-24 would significantly increase the number of vehicles driving onto or off of Fort Gordon during peak hours. Therefore, long-term cumulative impacts are not likely. However, it is recommended that roadway improvements be implemented and additional traffic surveys be conducted to confirm projected traffic conditions and identify further measures to minimize traffic impacts.

Infrastructure and Utilities

Implementation of Alternatives C through G would have less than significant impacts infrastructure and utilities. Possible localized short-term disruptions to water service could result from construction activities as existing buried water lines are accessed for connecting new water service lines to the proposed alternatives. There would be no long-term impacts to sanitary sewer/wastewater facilities or electrical system. Cumulatively, the projects described in Table 5-24 would have less than significant impacts to infrastructure and utilities. Cumulative projects along with the proposed action would not create excess burden on systems. Consequently, cumulative impacts to infrastructure and utilities would not be significant.

Socioeconomics, Environmental Justice, and Protection of Children

Implementation of Alternatives C through G would result in short-term beneficial cumulative impacts as a result of additional construction expenditures. The projects listed in Table 5-24 would add up to 100 additional personnel to Fort Gordon; however, no long-term cumulative impacts are expected.

Implementation of Alternatives C through G would result in short- and long-term beneficial impacts; no adverse cumulative impacts are anticipated. There would be no disproportionate adverse environmental health or safety risks to minority or low-income populations or children. Therefore, there is not potential for cumulative impacts.

5.15.4 No Action

Implementation of the No Action alternative would not result in any cumulative environmental impacts.

5.16 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

An irreversible or irretrievable commitment of resources refers to impacts on or losses to resources that cannot be reversed or recovered, even after an activity has ended and facilities have been decommissioned. A commitment of resources is related to use or destruction of nonrenewable resources, and the impacts that loss would have on future generations.

Construction and operation of the ARCYBER facility would involve the irreversible and irretrievable commitment of materials, energy, biological resources, and human resources. These impacts would be permanent.

Materials. Material resources irretrievably used would include steel, aluminum, concrete, and other building materials. These materials are not in short supply and would not be expected to limit other unrelated construction activities. The preferential use of recycled building materials would reduce the overall amount of materials required.

Energy. The use of fossil fuels (gasoline, natural gas, and diesel fuel) and electricity would be irretrievably lost during construction and operation of the facilities. Overall, consumption of energy resources would not place a significant demand on their availability in either region.

Biological Resources. Some irretrievable loss of vegetation and wildlife habitat would occur for most of the alternatives. With the exception of Alternative D (highly developed Back Hall Campus), the loss of vegetation and conversion of open space would be a permanent impact to biological resources.

Human Resources. The use of human resources for construction is considered an irretrievable loss only in that it would prevent such personnel from engaging in other work activities. However, the use of human resources for the construction actions represents employment opportunities and is considered beneficial.

No Action Alternative

The No Action alternative would not result in any commitment of resources other than those currently used in day to day activities at Fort Meade or at Fort Gordon.

5.17 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table 5-25 provides a summary of the potential environmental and cumulative impacts associated with the implementation of the Proposed Action. As detailed in this EA, there would be expected short–term minor adverse impacts to land use, air quality, noise, potable water and wastewater systems, electrical supply, telecommunications, and possibly HTRS from the construction of any of the alternatives; short-term and long-term minor adverse impacts would also occur to aesthetics, air quality, soils, vegetation, wildlife resources, solid waste generation, and potentially stormwater; short term minor adverse impacts and long-term moderate to severe impacts to traffic and short-term and long-term minor beneficial impacts to socioeconomics would also be expected.

While implementation of each alternative has the potential to result in adverse traffic effects to select intersections, the application of the proposed mitigation measures described in Tables 5-7 and 5-9, and detailed further in Appendix D would lessen the projected traffic impacts and is expected to result in no substantial effects.

Table 5-26 includes a list of Federal environmental statutes and executive orders that are applicable to the proposed project, as well as the status of compliance to each.

Table 5-25: Summary of Potential Individual and Cumulative Effects on Environmental Resources								
Environmental Consequences								
Resource Area	**Proposed Actions at Ft. Meade**		**Proposed Actions at Ft. Gordon**					**No Action**
	Alternative A	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**	**Alternative F**	**Alternative G**	
Physical Environment								
Land Use	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Visual and Aesthetic Value	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Air Quality	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Noise	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Geology and Soils	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Prime and Unique Farmland	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Water Resources								
Surface Waters	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	Possible Short-term Minor Adverse Impacts	No Impacts
Stormwater	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	Possible Short-term and Long-term Minor Adverse Impacts	No Impacts
Floodplains	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts

Table 5-25: Summary of Potential Individual and Cumulative Effects on Environmental Resources								
Environmental Consequences								
Resource Area	**Proposed Actions at Ft. Meade**		**Proposed Actions at Ft. Gordon**					**No Action**
	Alternative A	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**	**Alternative F**	**Alternative G**	
Water Resources cont'd								
Groundwater	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Coastal Zone	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Biological Resources								
Wetlands	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Vegetation	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Very Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Wildlife Resources	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Very Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Rare, Threatened, or Endangered Species	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	Short-term Minor Adverse Impacts	No Impacts
Aquatic Habitat	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Wild and Scenic Rivers	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Cultural Resources	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Hazardous, Toxic, and Radioactive Substances	No Impacts	Possible short-term minor adverse impacts and long-term minor beneficial impacts	No Impacts	Possible short-term minor adverse impacts and long-term minor beneficial impacts	No Impacts	No Impacts	No Impacts	No Impacts

Table 5-25: Summary of Potential Individual and Cumulative Effects on Environmental Resources								
Environmental Consequences								
Resource Area	**Proposed Actions at Ft. Meade**		**Proposed Actions at Ft. Gordon**					**No Action**
	Alternative A	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E**	**Alternative F**	**Alternative G**	
Infrastructure And Utilities								
Traffic, Roadways, and Transportation Systems*	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	Short-term Minor Adverse Impacts and Long-term Moderate to Severe Adverse Impacts	No Impacts
Potable Water	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Sanitary Sewer/ Wastewater	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Power	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	Short-term Minor Adverse Impacts	No Impacts
Solid Waste	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	Short-term and Long-term Minor Adverse Impacts	No Impacts
Socio-economic	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	Short-term and Long-term Minor Beneficial Impacts	No Impacts
Environmental Justice/ Protection of Children	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Disproportionate Impacts	No Impacts
Cumulative Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Significant Impacts	No Impacts

* While implementation of each alternative has the potential to result in adverse traffic effects to select intersections, the application of the proposed mitigation measures described in Tables 5-7 and 5-9, and detailed further in Appendix D would lessen the projected traffic impacts and is expected to result in no substantial effects.

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Table 5-26: Compliance with Federal Environmental Statutes and Executive Orders	
Acts	**Compliance**
Clean Air Act, as amended (Public Law 88-206)	FULL
Clean Water Act, as amended (Public Law 95-217)	FULL
Coastal Zone Management Act (Public Law 92-583)	FULL
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. §9601 et seq.)	FULL
Endangered Species Act of 1973, as amended (Public Law 93-205)	FULL
Farmland Protection Policy Act (Public Law 97-98)	FULL
Fish and Wildlife Coordination Act, as amended (16 United States Code [U.S.C.] 661, et seq.)	FULL
Migratory Bird Treaty Act (16 U.S.C §§703-712, et seq.)	FULL
National Environmental Policy Act of 1969 (Public Law 91-190)	FULL
National Historic Preservation Act of 1966, as amended (Public Law 89-665)	FULL
Noise Control Act of 1972, as amended (Public Law 92-574)	FULL
Resource Conservation and Recovery Act (Public Law 94-580)	FULL
Safe Drinking Water Act, as amended (Public Law 93-523)	FULL
Solid Waste Disposal Act of 1965, as amended (Public Law 89-272, Title II)	FULL
Toxic Substances Control Act of 1976 (Public Law 94-469)	FULL
Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. §1101, et seq.)	FULL
Wetlands Conservation Act (Public Law 101-233)	FULL
Wild and Scenic Rivers Act (Public Law 90-542, as amended)	FULL
Sikes Act, as amended (Public Law 86-797)	FULL
Archaeological Resources Protection Act, as amended (Public Law 96-95)	FULL
Executive Orders (EO)	
Floodplain Management (EO 11988)	FULL
Protection of Wetlands (EO 11990)	FULL
Environmental Justice in Minority Populations and Low-Income Populations (EO 12898)	FULL
Federal Compliance with Pollution Control Standards (EO 12088)	FULL
Protection of Children from Environmental Health Risks and Safety Risks (EO 13045)	FULL
Consultation and Coordination with Indian Tribal Governments (EO 13175)	FULL
Strengthening Federal Environmental, Energy, and Transportation Management (EO 13514)	FULL
Chesapeake Bay Protection and Restoration (EO 13508)	FULL

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6.0 CONCLUSION

Pursuant to NEPA of 1969, as amended, an EA has been prepared to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the establishment and operation of a Command and Control Facility for ARCYBER to be located at Fort Meade, Maryland, or Fort Gordon, Georgia. With the potential growth of ARCYBER, the resulting facility may need to be capable of supporting a workforce of at least 1,500 personnel.

ARCYBER currently has approximately 156 personnel stationed at Fort Meade and approximately 343 personnel stationed at Fort Belvoir. As ARCYBER grows, personnel from Fort Belvoir would be transferred to one of the two proposed locations. The Proposed Action includes the potential for one or more scenarios encompassing the Command and Control Facility and addition of personnel to either Fort Meade in Maryland or to Fort Gordon in Georgia. The alternatives evaluated in this EA include utilizing existing buildings, renovating existing buildings, and constructing new facilities. The alternatives are presented below:

Fort Meade Course of Action: Interim station would not be necessary at the Fort Meade location. Final stationing options at Fort Meade include the following two alternatives:

- Alternative A: Construct new 179,056 SF facility at Fort Meade at the northwest corner of Mapes Road and Taylor Avenue. Parking and access would also be provided at this location.

- Alternative B: Construct new facility within the East Campus area located within the National Security Agency's fenceline and use Building 8605 for a portion of the administrative and logistics staff. Parking and access would also be provided at this location.

Fort Gordon Course of Action: Interim stationing would have the personnel currently located at Fort Belvoir and Fort Meade relocated to several buildings within Back Hall Campus at Fort Gordon. Renovation to these buildings may be required to accommodate the temporary stationing. Final stationing options at Fort Gordon include the following five alternatives all located within the cantonment area:

- Alternative C: Construct a new 179,056 SF facility at Fort Gordon in a 16-acre site southwest of the intersection of 110th Avenue and 15th Street. Parking and access would also be provided at this location.

- Alternative D: Renovate several buildings within Back Hall Campus between 22nd Street to 25th Street and Chamberlain Avenue to Barnes Avenue and construct an additional 47,000 SF facility.

- Alternative E: Construct a wing on Whitelaw Hall for the entire ARCYBER Command as part of the planned Whitelaw Hall Phase 2 development.

- Alternative F: Construct a new 179,056 SF facility on Kilbourne Street to house the entire ARCYBER Command. Parking and access would also be provided at this location.

- Alternative G: Construct a new 179,056 SF facility on 19th Street to house the entire ARCYBER Command. Parking and access would also be provided at this location.

As detailed in this EA, there would be expected short–term minor adverse impacts to land use, noise, potable water, sanitary sewer/wastewater, and power from the construction of any of the alternatives; short-term and long-term minor adverse impacts would also occur to aesthetics, air quality, soils, vegetation, wildlife resources, solid waste generation, and possibly stormwater; short term minor adverse impacts and long-term moderate to severe impacts to traffic; and short-term and long-term minor beneficial impacts to socioeconomics and possibly HTRS would also be expected. There would be no disproportional impacts to environmental justice/protection of children and no significant cumulative impacts would be expected for any of the proposed alternatives.

While implementation of each alternative has the potential to result in adverse traffic effects to select intersections, the application of the proposed mitigation measures described in Tables 5-7 and 5-9, and detailed further in Appendix D would lessen the projected traffic impacts and is expected to result in no substantial effects.

Table 5-24 summarizes the potential consequences that the project alternatives and the No Action alternative would have on environmental resources. Table 5-25 presents a list of Federal environmental statutes and executive orders that are applicable to the proposed project, as well as the status of compliance to each.

Based on the evaluation of the environmental consequences accomplished by this EA, the preparation of an EIS is not needed. Any moderate to severe traffic impacts can be minimized through the implementation of previously identified measures. The preparation of a FNSI shall be appropriate.

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8.0 ACRONYMS AND ABBREVIATIONS

ACM	Asbestos Containing Material
AIRFA	American Indian Religious Freedom Act
AOC	Architect of the Capitol
AQCR	Air Quality Control Region
AR	Army Regulation
ARCYBER	Army Cyber Command, 2nd Army
ARPA	Archaeological Resource Protection Act
AUD	City of Augusta Utilities Department
AWG	Asymmetric Warfare Group
BCT	Basic Combat Training
BG&E	Baltimore Gas and Electric
BMP	Best Management Practice
BRAC	Base Realignment and Closure
CAA(A)	Clean Air Act (Amendments)
CEQ	Council of Environmental Quality
CEMP	Comprehensive Expansion Master Plan
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CH_4	Methane
CHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
COMAR	Code of Maryland Regulations
CWA	Clean Water Act
CZM(A)	Coastal Zone Management (Act)
dBA	A-Weighted Decibel
DC	District of Columbia
DDEAMC	Dwight D. Eisenhower Army Medical Center
DINFOS	Defense Information School
DISA	Defense Information System Agency
DMA	Defense Media Activity
DMM	Discarded Military Munitions
DNL	Day-Night Level
DoD	Department of Defense
DoI	Department of the Interior
EA	Environmental Assessment
ECOP	Environmental Condition of Property
EIS	Environmental Impact Statement
EMCS	Energy Monitoring Control Systems

EO	Executive Order
EPA	Environmental Protection Agency
EPD	Environmental Protection Division
ERP	Environmental Restoration Program
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan
ESD	Environmental Site Design
EUL	Enhanced Use Lease
FEMA	Federal Emergency Management Agency
FFA	Federal Facility Agreement
FIRM	Flood Insurance Rate Map
FNSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FY	Fiscal Year
GA	Georgia
GADNR	Georgia Department of Natural Resources
GHG	Greenhouse Gas
GPD	Gallons Per Day
GPM	Gallons Per Minute
GRSOC	Gordon Regional Security Operations Center
GWP	Global Warming Potential
HAP	Hazardous Air Pollutant
HEL	Highly Erodible Lands
HMCC	Hazardous Materials Control Center
HSMS	Hazardous Substance Management System
HTRS	Hazardous, Toxic, and Radioactive Substances
ICRMP	Integrated Cultural Resources Management Plan
IDS	Intrusion Detection System
IET	Initial Entry Training
INRMP	Integrated Natural Resource Management Plan
IPMP	Integrated Pest Management Plan
IRP	Installation Restoration Program
ISCP	Installation Spill Contingency Plan
ITE	Institute of Transportation Engineers
kV	Kilovolt
LBP	Lead Based Paint
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LTM	Long Term Management
LOS	Level of Service
LUC	Land Use Control

MC	Munitions Constituent
MD	Maryland
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MEC	Munitions of Explosive Concern
MPPEH	Material Potentially Presenting an Explosive Hazard
MGD	Million gallons per day
mg/L	Milligrams per Liter
MMRP	Military Munitions Response Program
MOUT	Military Operations on Urban Terrain
MRA	Munitions Response Area
MRS	Munitions Response Site
MSDS	Material Safety Data Sheets
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NBC	Nuclear, Biological, and Chemical
NCA	Noise Control Act
NCHRP	National Cooperative Highway Research Program
NCO	Non-Commissioned Officer
NEPA	National Environmental Protection Act
NETCOM	Army Network Enterprise Technology Command
NHPA	National Historic Preservation Act
N_2O	Nitrous Oxide
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NOC	Network Operations Center
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSA	National Security Agency
NSGA	Naval Security Group Activity
NSR	New Source Review
NWI	National Wetland Inventory
O_3	Ozone
OC	Operations Center
OSUT	One Station Unit Training
PCB	Polychlorinated Biphenyl
PM	Particulate Matter
PM_{10}	PM less than 10 microns in diameter
$PM_{2.5}$	PM less than 2.5 microns in diameter
POLs	Petroleum, Oils, and Lubricants

RCI	Residential Communities Initiative
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
RFI	RCRA Facility Investigation
ROG	Reactive Organic Gas
ROI	Region of Influence
RONA	Record of Non-Applicability
SARA	Superfund Amendments and Reauthorization Act
SBV	Stream Buffer Variance
SCIF	Sensitive Compartmented Information Facility
SF	Square Foot (Feet)
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
SOP	Standard Operating Procedure
SPCCP	Spill Prevention Control and Countermeasures Plan
SWMU	Solid Waste Management Unit
SWPPP	Storm Water Pollution Prevention Plan
TA	Training Area
TMDL	Total Maximum Daily Load
TOE	Table of Organization and Equipment
TSCA	Toxic Substance Control Act
UPS	Uninterrupted Power Systems
U.S.	United States
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WTP	Water Treatment Plant
WWTP	Waste Water Treatment Plant

APPENDIX A

FIGURES

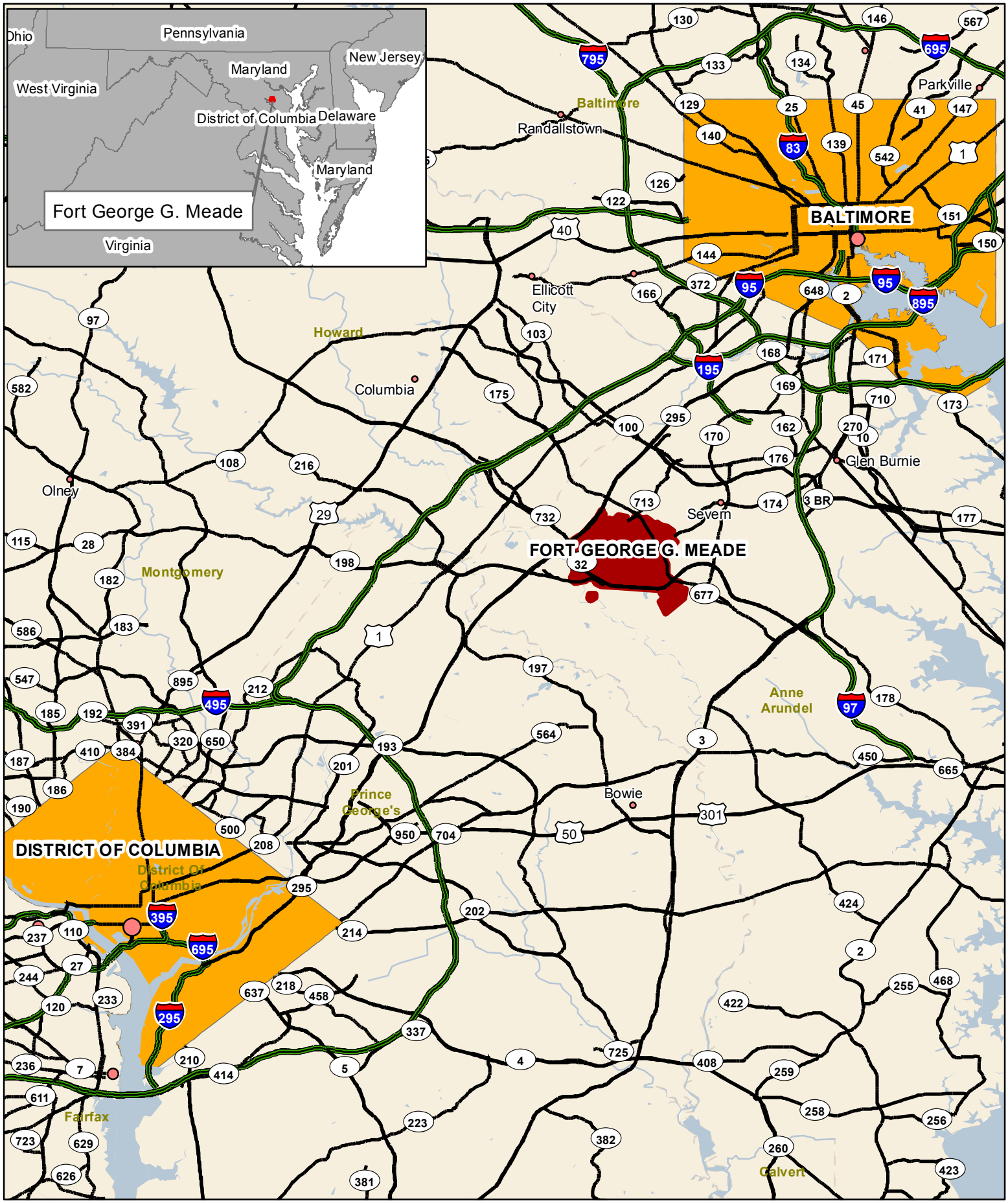


Figure 1-1: Location
Fort George G. Meade
Anne Arundel County, Maryland

1 inch = 5 miles

0 2.5 5 10 Miles

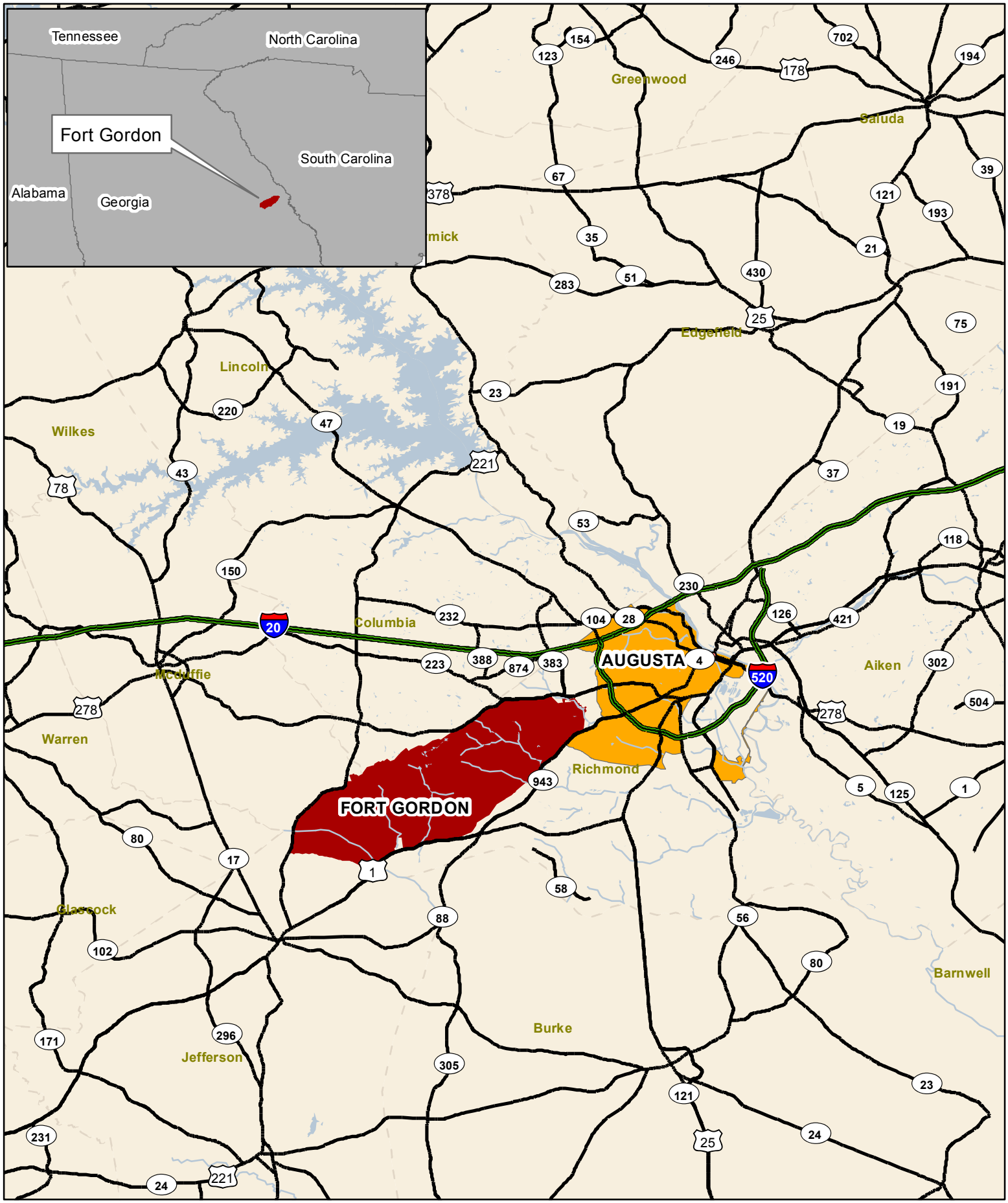


Figure 1-2: Location
Fort Gordon
Richmond, Jefferson, Columbia, and McDuffie Counties
Georgia

1 inch = 8 miles

0 4 8 16 Miles

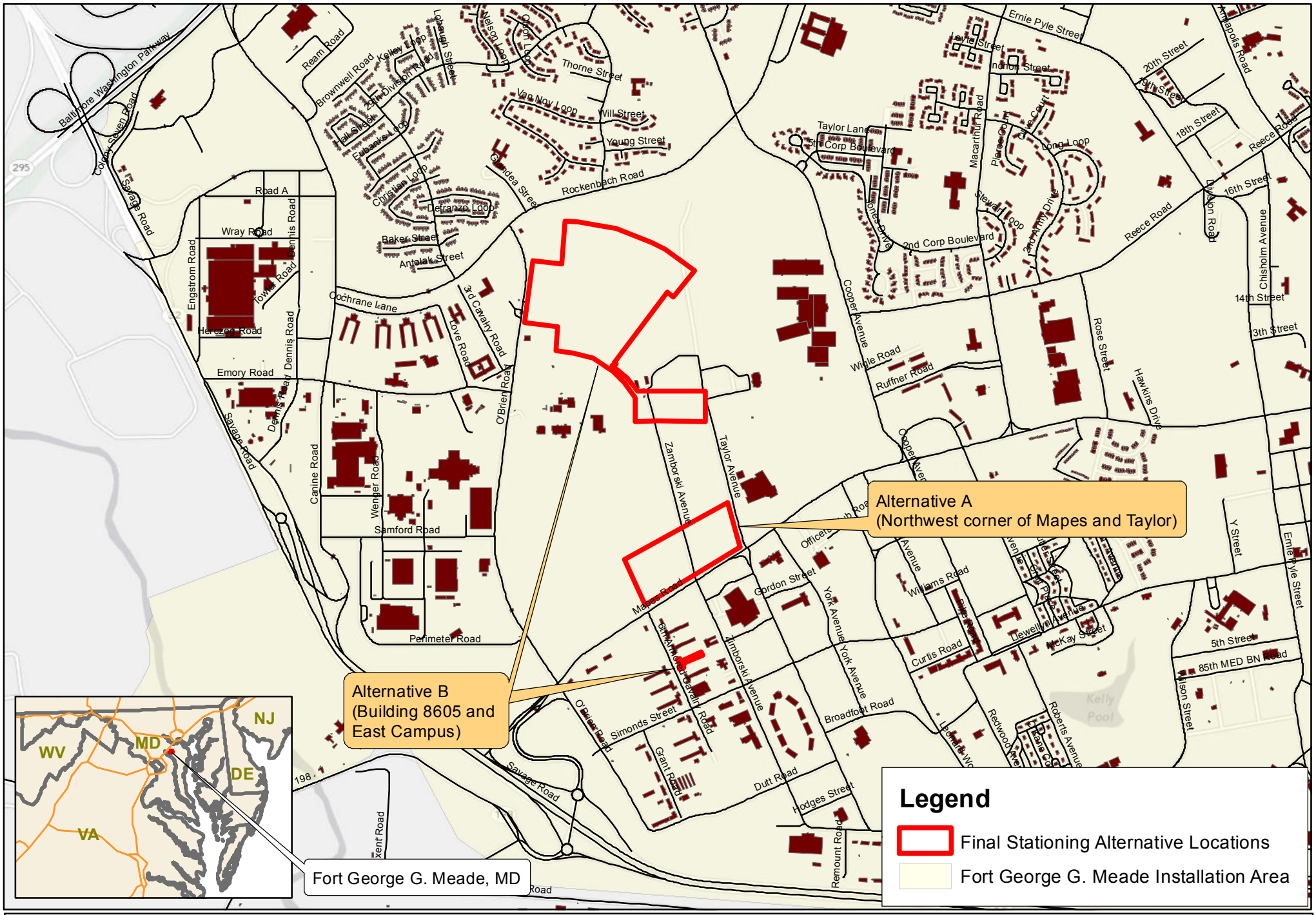


FIGURE 2-1
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort George G. Meade, MD

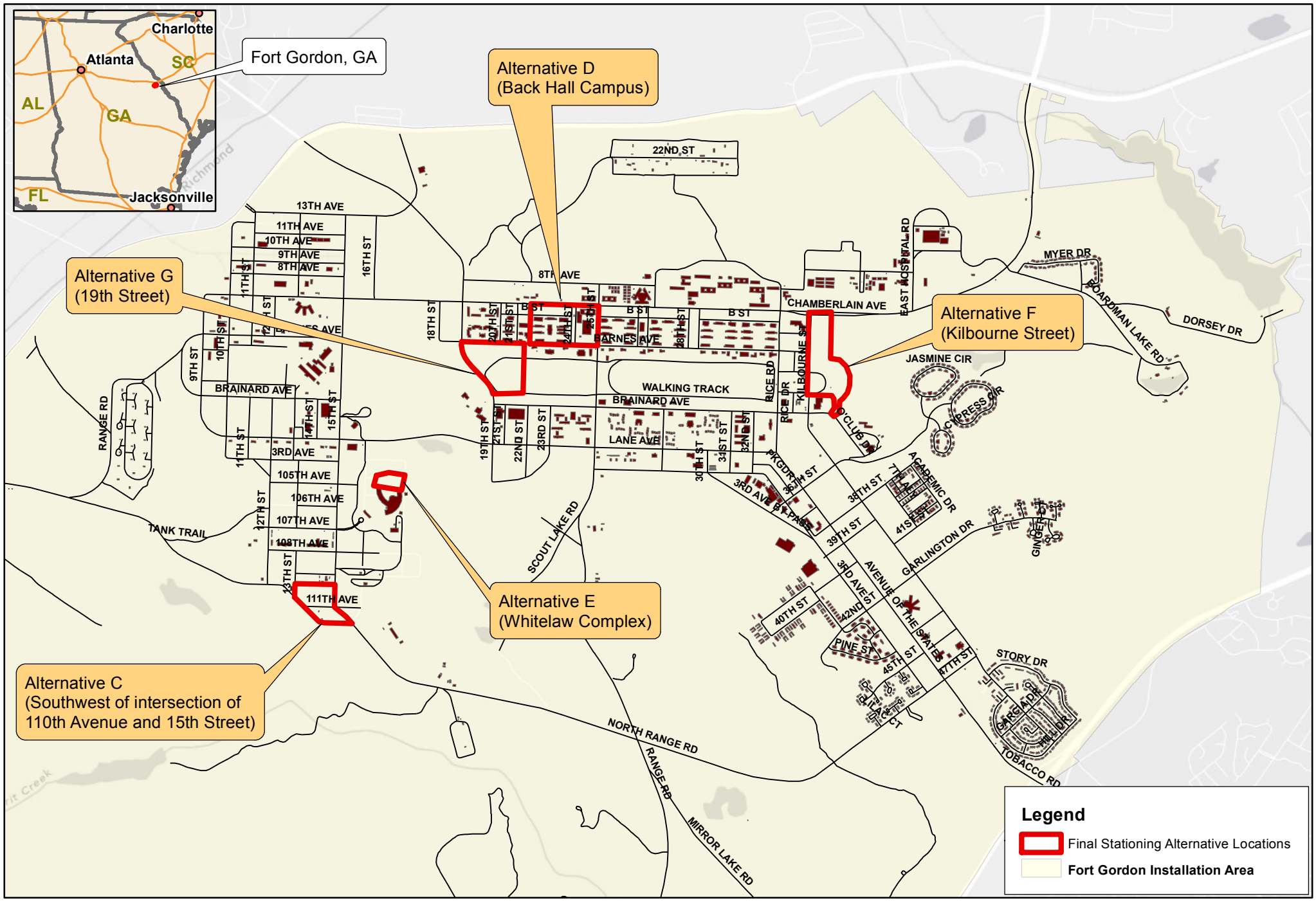


FIGURE 2-2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared July 23, 2013

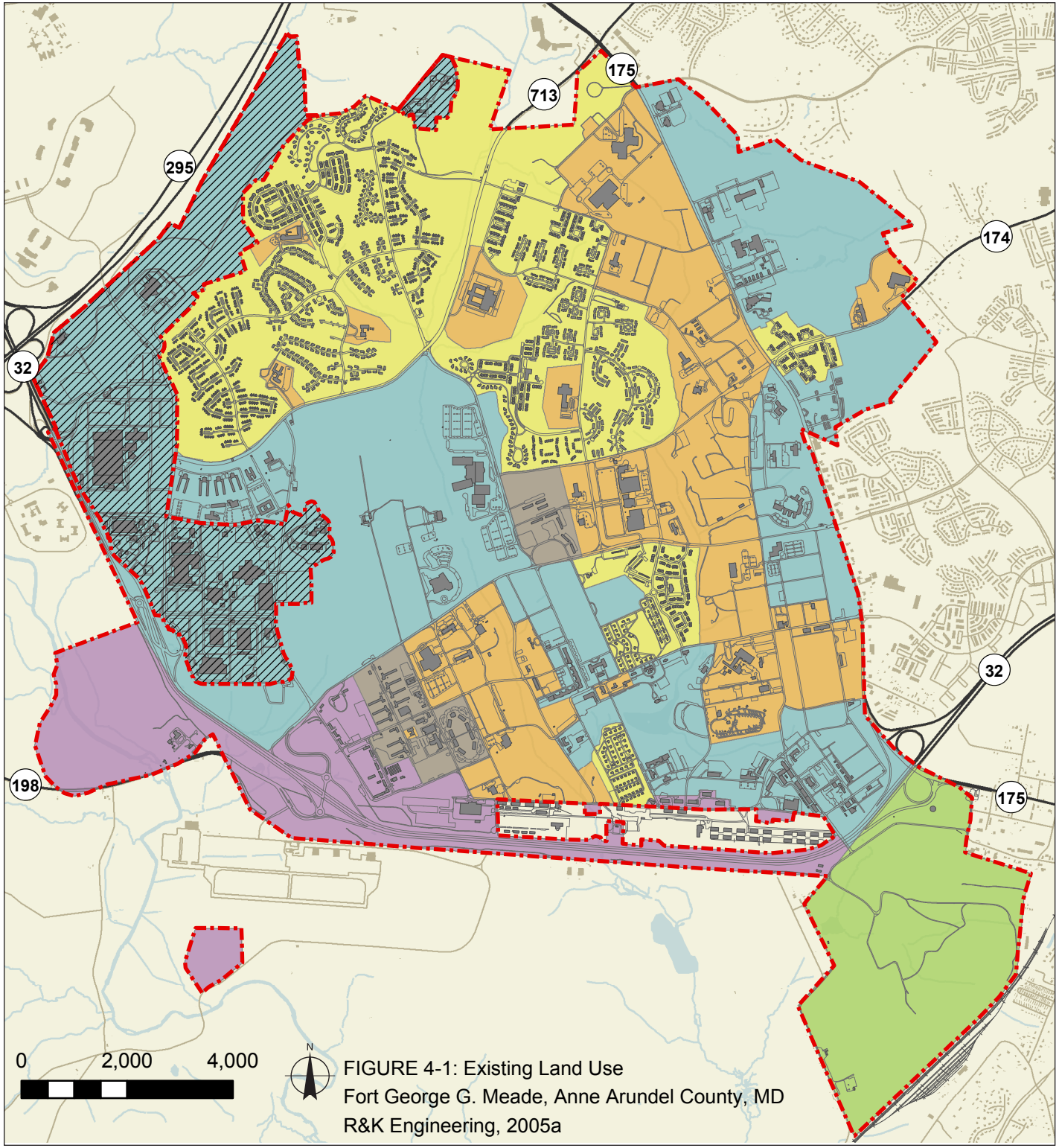


FIGURE 4-1: Existing Land Use
Fort George G. Meade, Anne Arundel County, MD
R&K Engineering, 2005a

- Installation Boundary
- NSA Exclusive Use (not in study area)
- Community
- Industrial
- Professional/Institutional
- Ranges and Training
- Residential
- Troop
- Rail Line
- Road and Parking Area
- Existing Structure

Source: Land Use data defined using descriptions contained in Real Property Master Plan - Long Range Component Fort Meade, MD. R&K Engineering (2005)

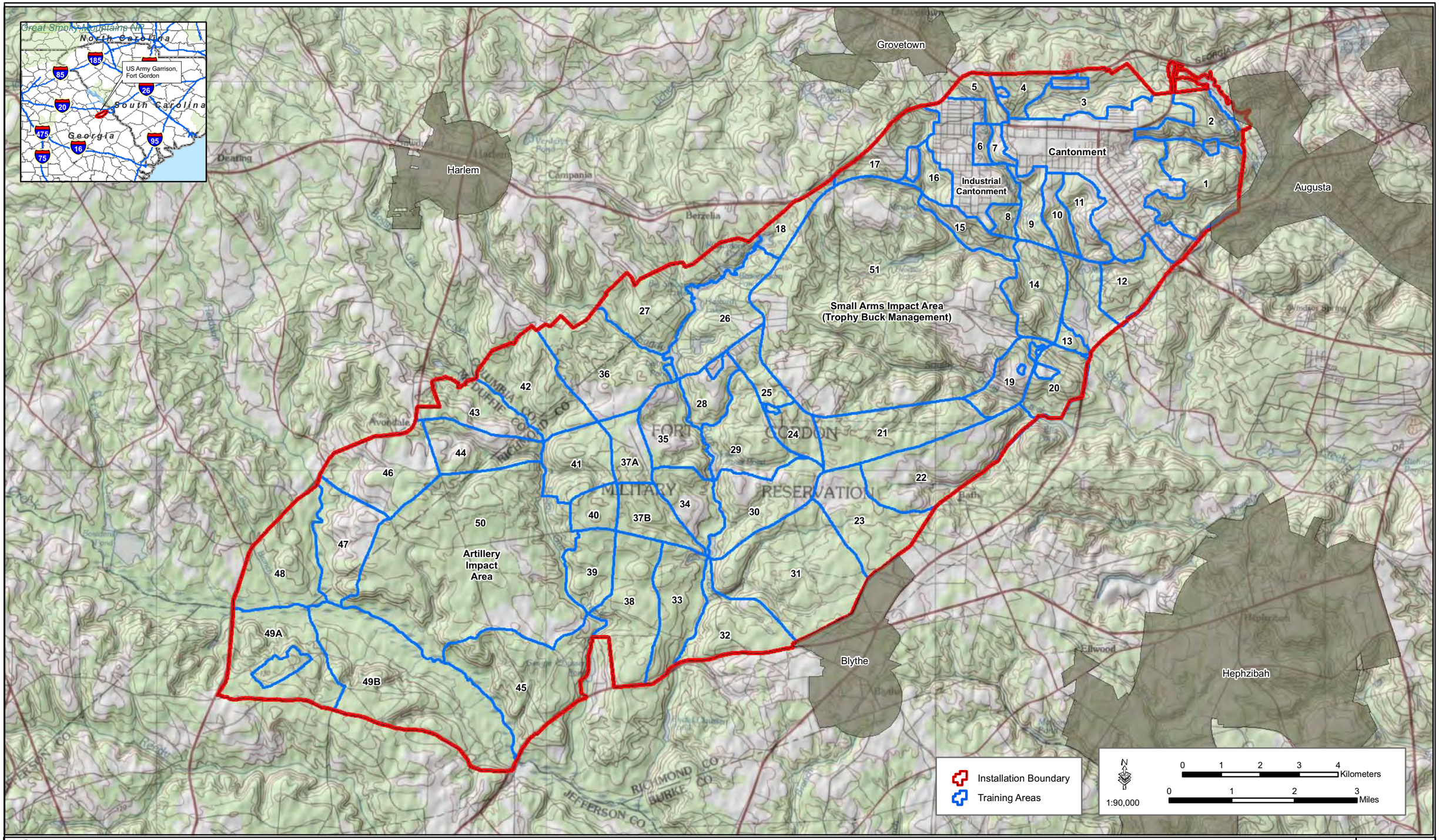


FIGURE 4-2: Existing Land Use
Fort Gordon, Richmond, Jefferson, Columbia, and McDuffie Counties, GA
(GSRC, 2008)

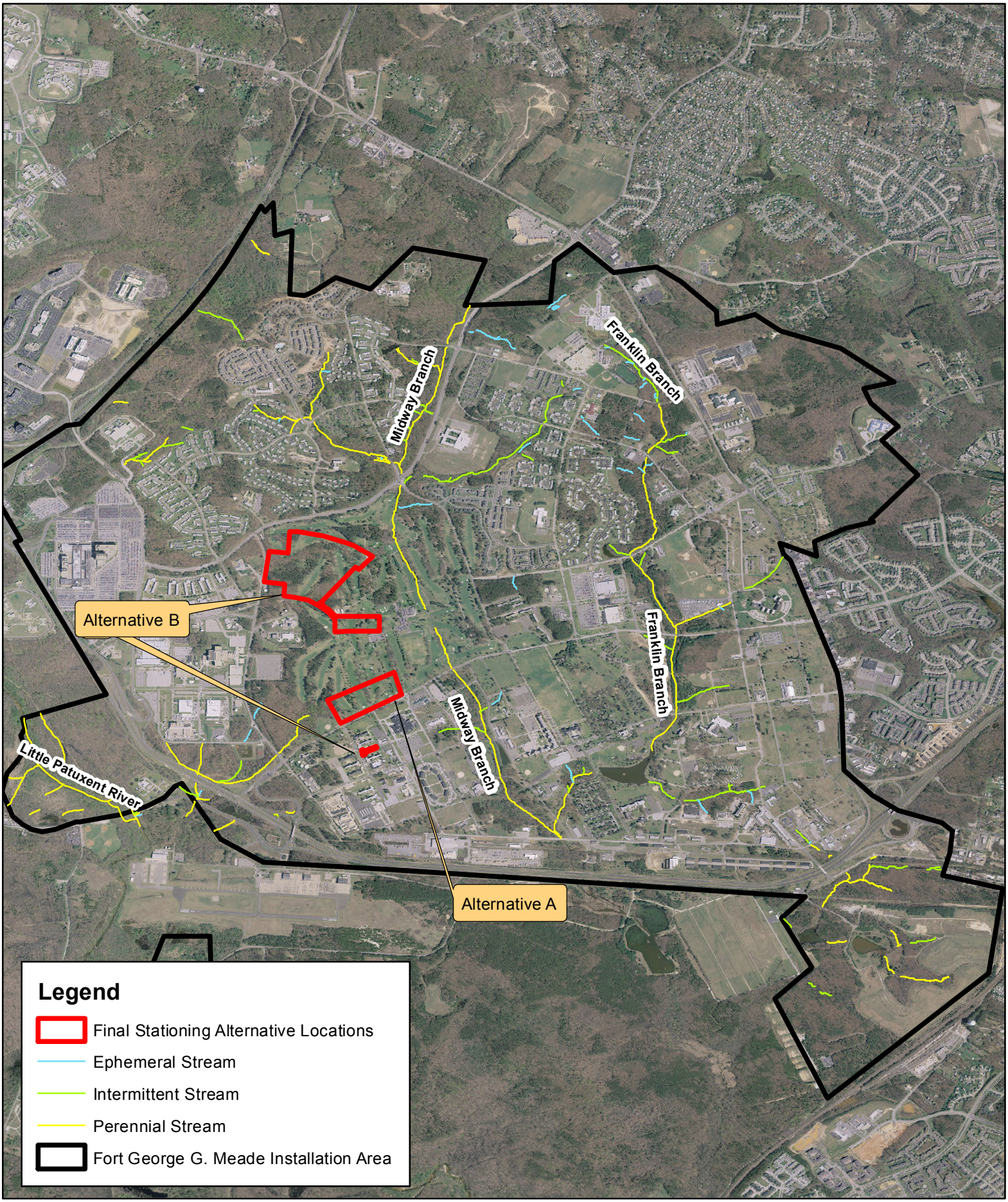


Figure 4-3: Surface Water Features
Fort George G. Meade, Anne Arundel County, MD
Source: Aerial, Anne Arundel County, 2007

1 inch = 3,000 feet

0 1,500 3,000 6,000 Feet

Prepared August 14, 2012

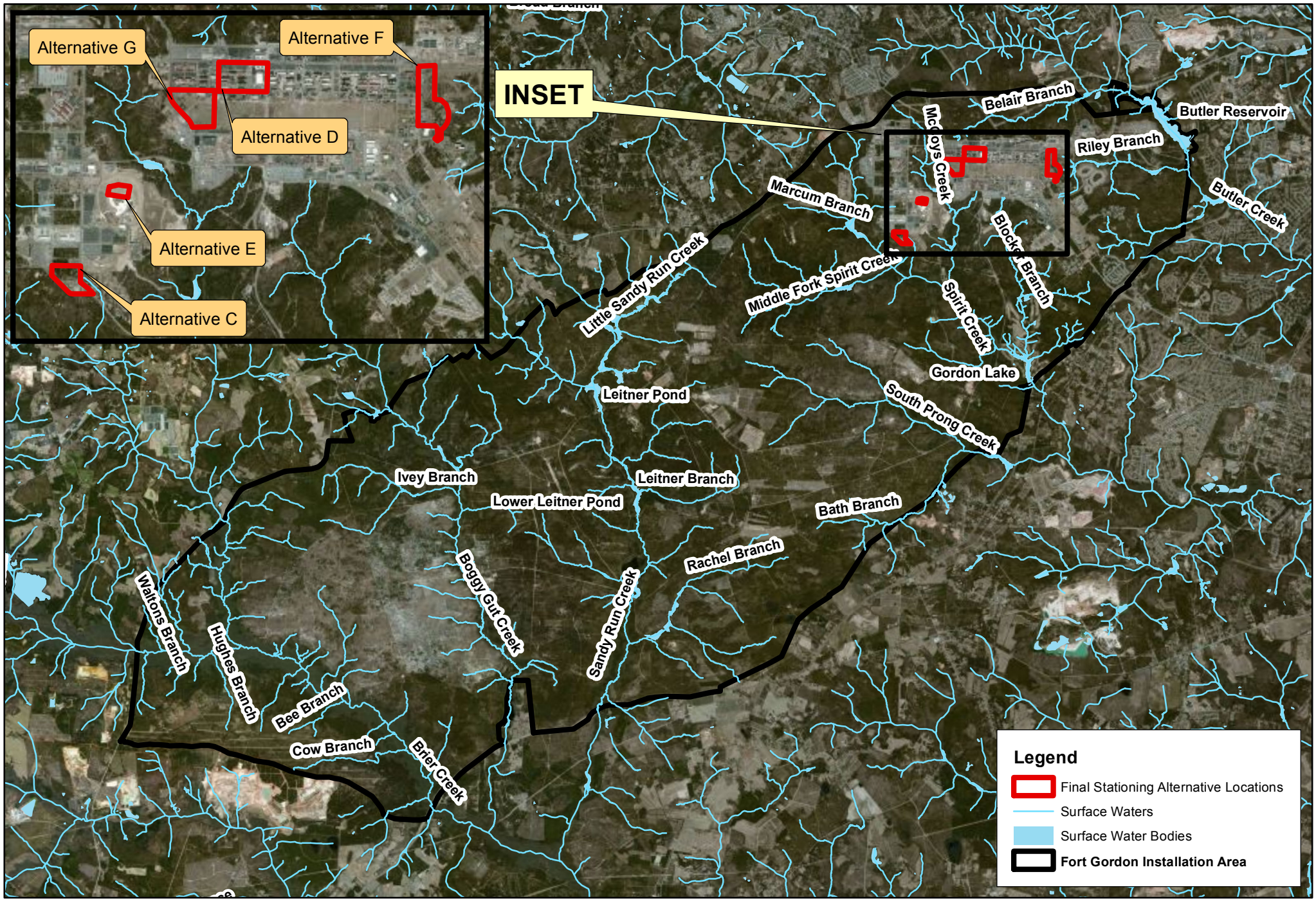


FIGURE 4-4: Surface Water Features
Fort Gordon, Richmond, Jefferson, Columbia, and McDuffie Counties, GA
Source: Aerial, Bing Maps

0 5,000 10,000 20,000 30,000 40,000 Feet

Prepared July 23, 2013

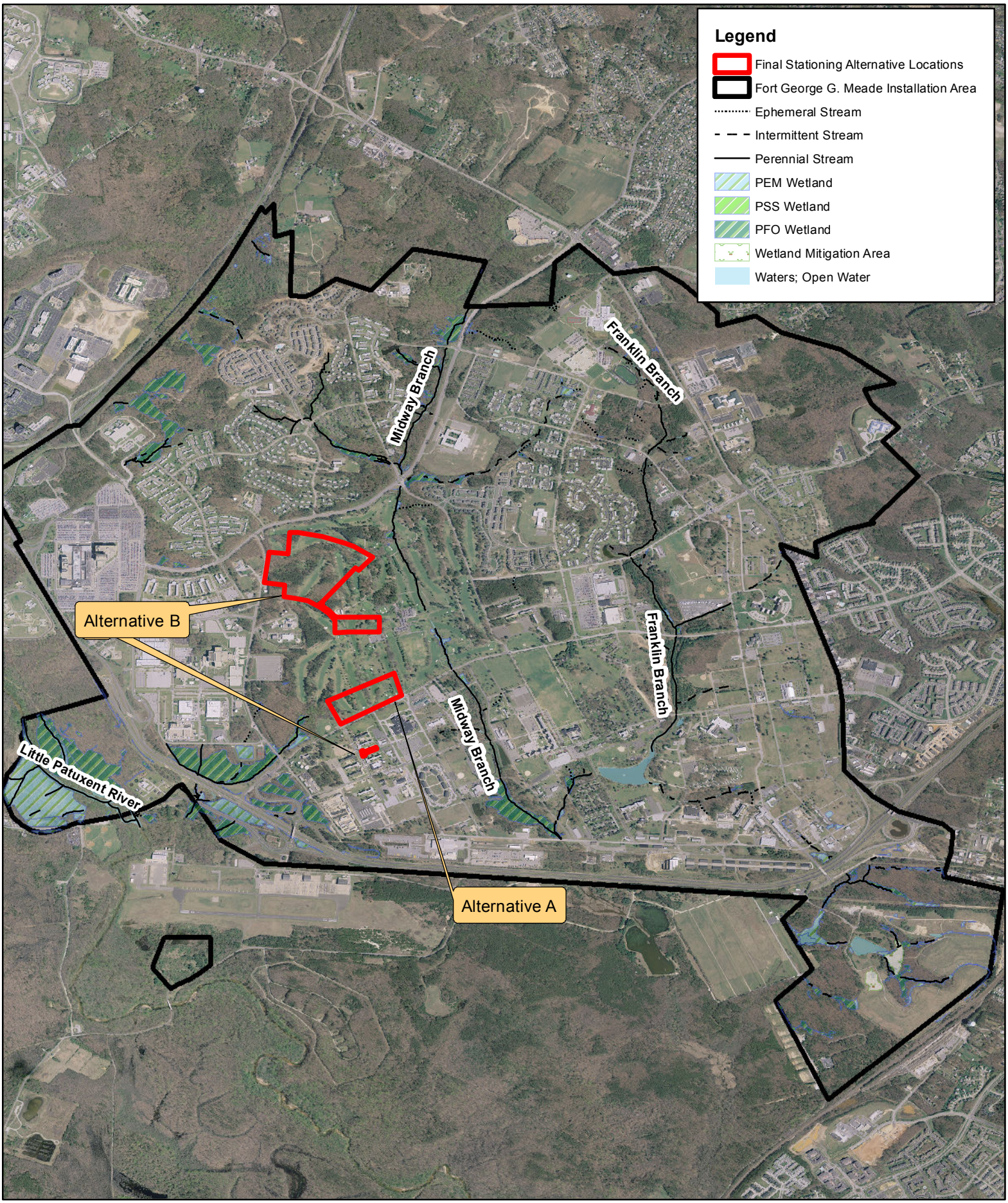


Figure 4-5: Wetlands

Fort George G. Meade, Anne Arundel County, MD
Source: Aerial, Anne Arundel County, 2007
Wetlands, USACE, 2011

1 inch = 3,000 feet

0 1,500 3,000 6,000 Feet

Prepared August 14, 2012

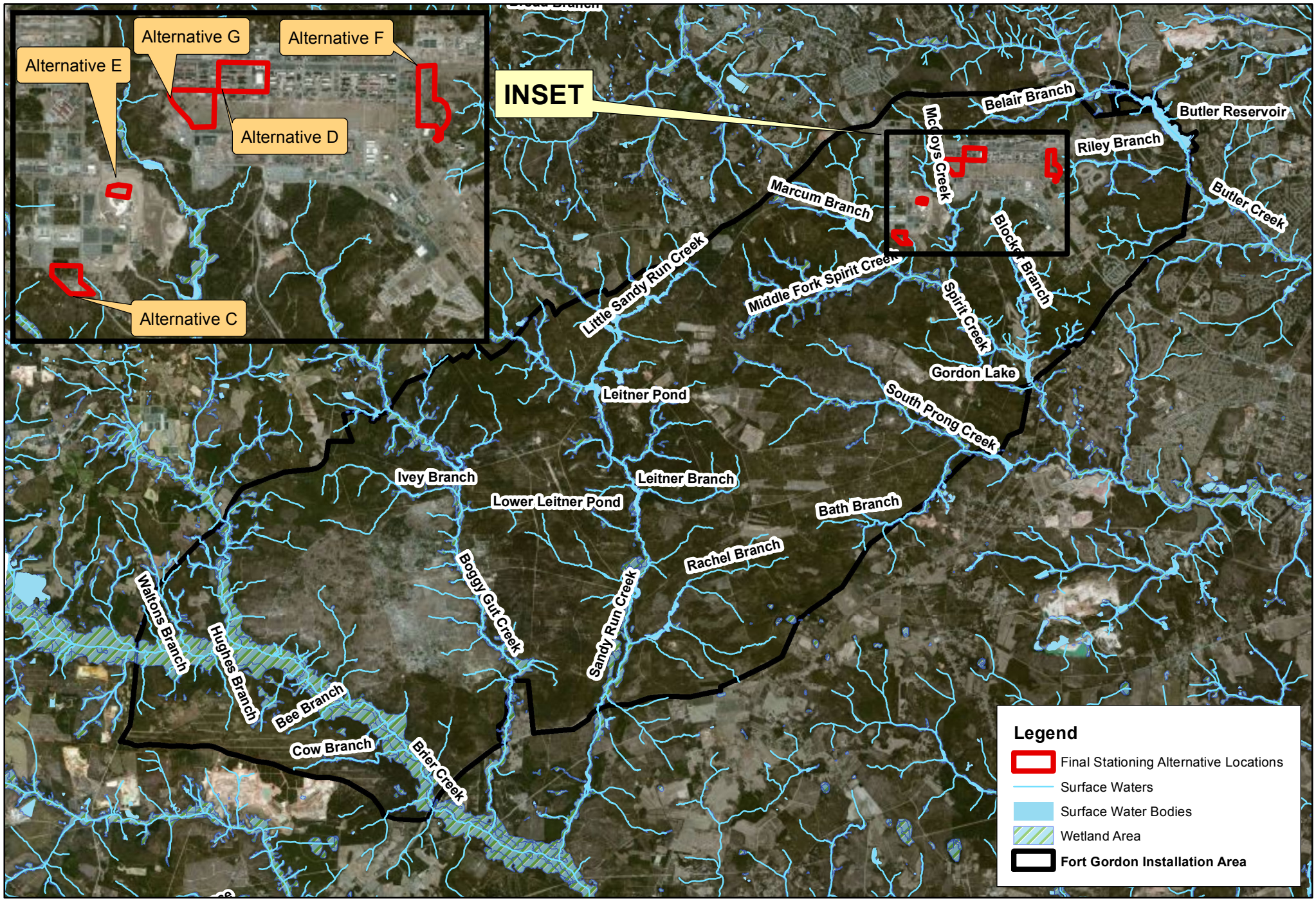


FIGURE 4-6: Wetlands
Fort Gordon, Richmond, Jefferson, Columbia, and McDuffie Counties, GA
Source: Aerial, Bing Maps
Wetlands, National Wetland Inventory, 2012

0 5,000 10,000 20,000 30,000 40,000 Feet

Prepared July 23, 2013

Figure 4-7: Potential Soil and Groundwater Hazard Areas

Fort George G. Meade, Anne Arundel County, MD
Source: Aerial, Anne Arundel County, 2007
CERFA Parcels, NSA, 2010

1 inch = 1,000 feet

0 500 1,000 2,000 Feet

Prepared September 24, 2012

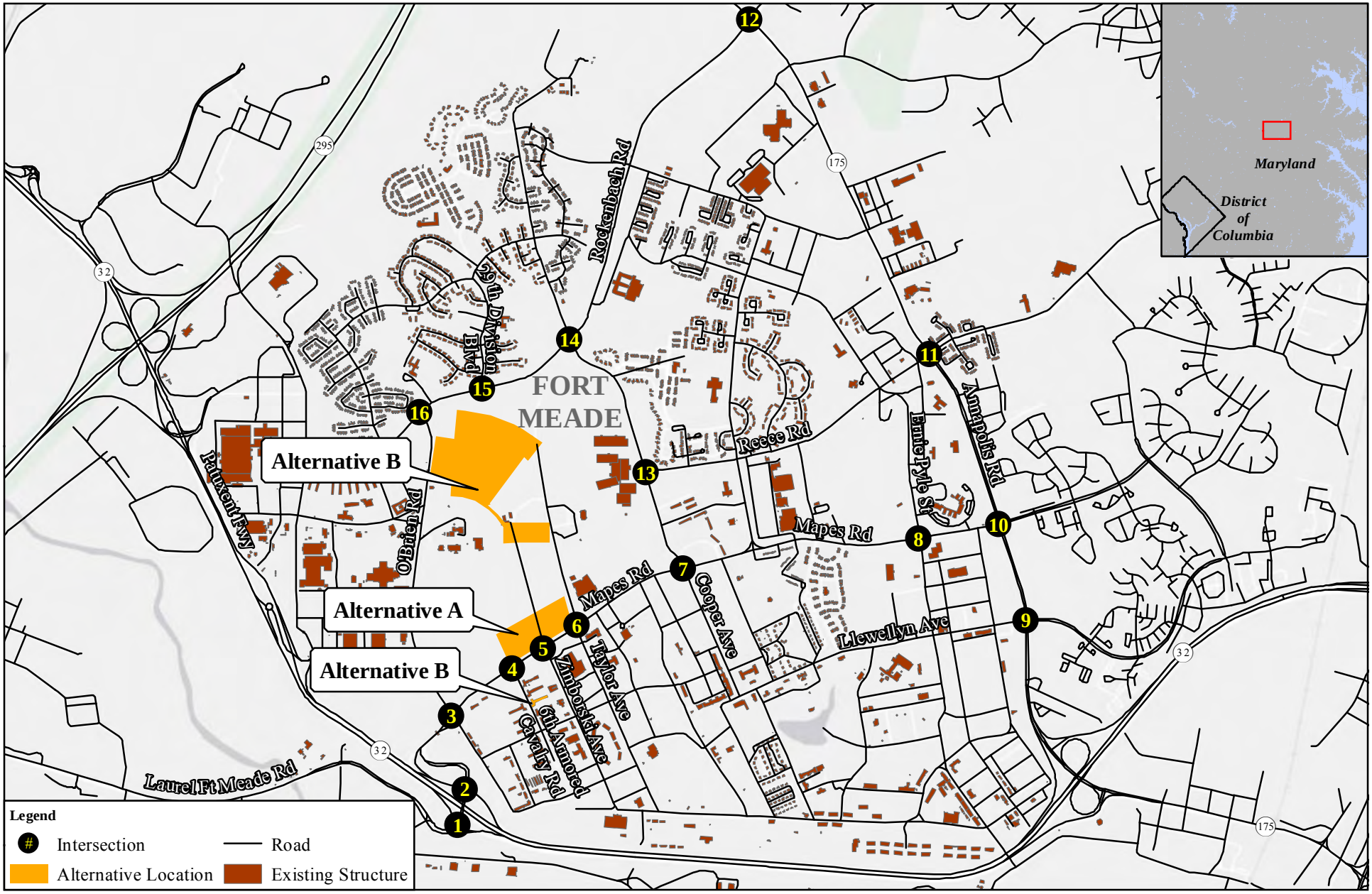


Figure 4-8:Traffic Region of Influence,
Fort Meade Course of Action

1 in = 0.5 miles

0 0.25 0.5 1 Miles

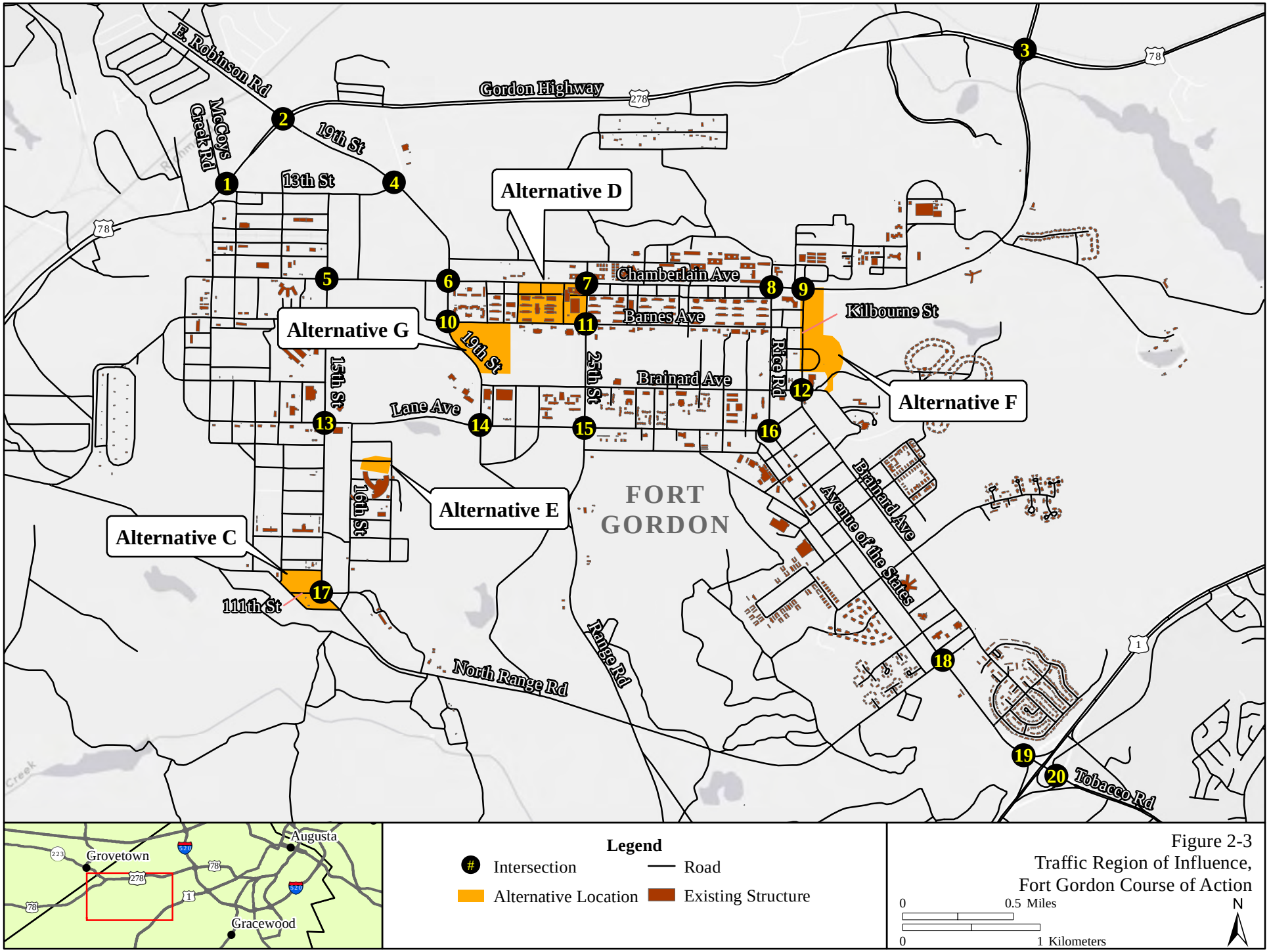


Figure 2-3
Traffic Region of Influence,
Fort Gordon Course of Action

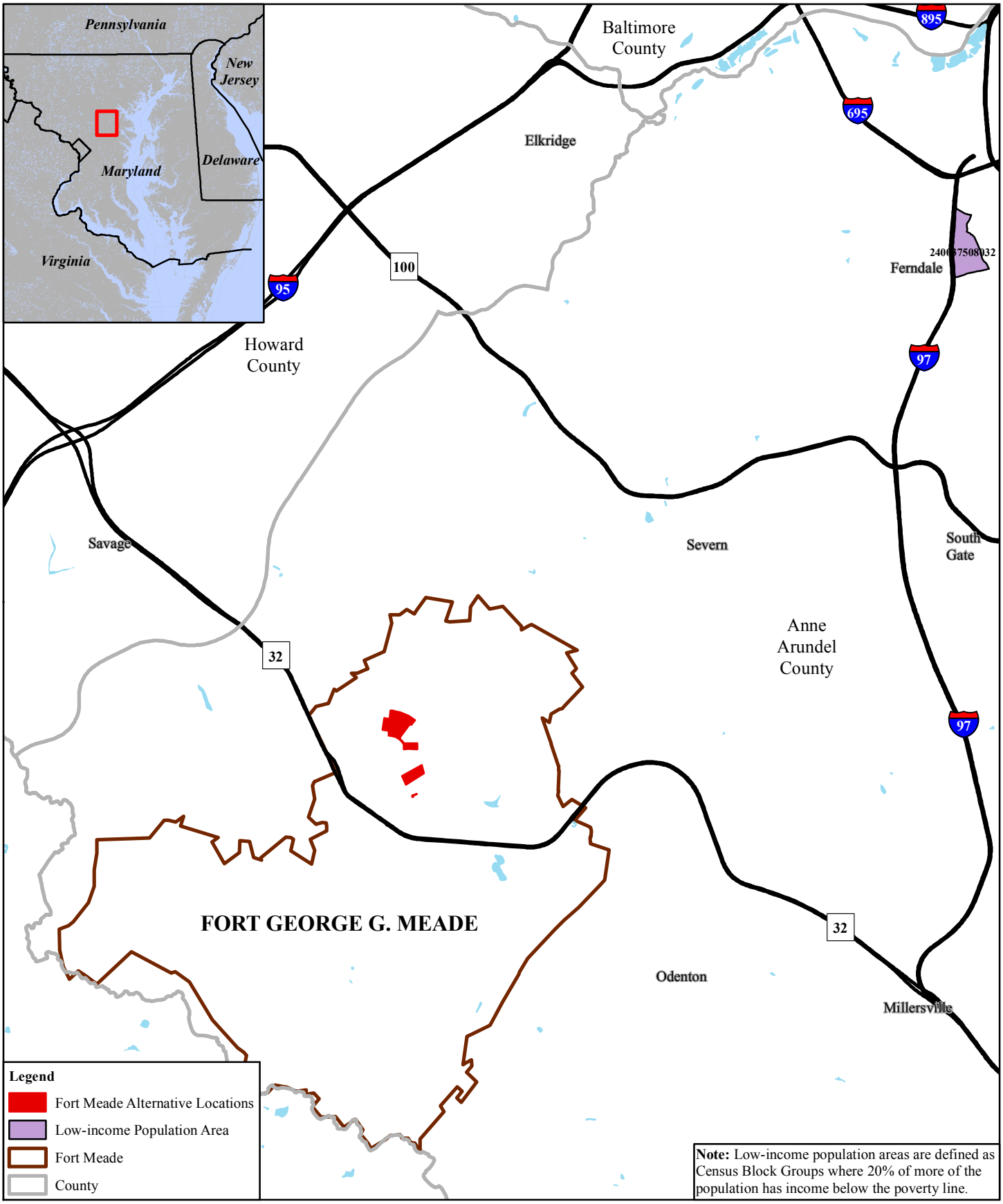


Figure 4-10: Environmental Justice for Low-income Population Areas

1 in = 2 miles

0 0.5 1 2 Miles

Source: Census 2010

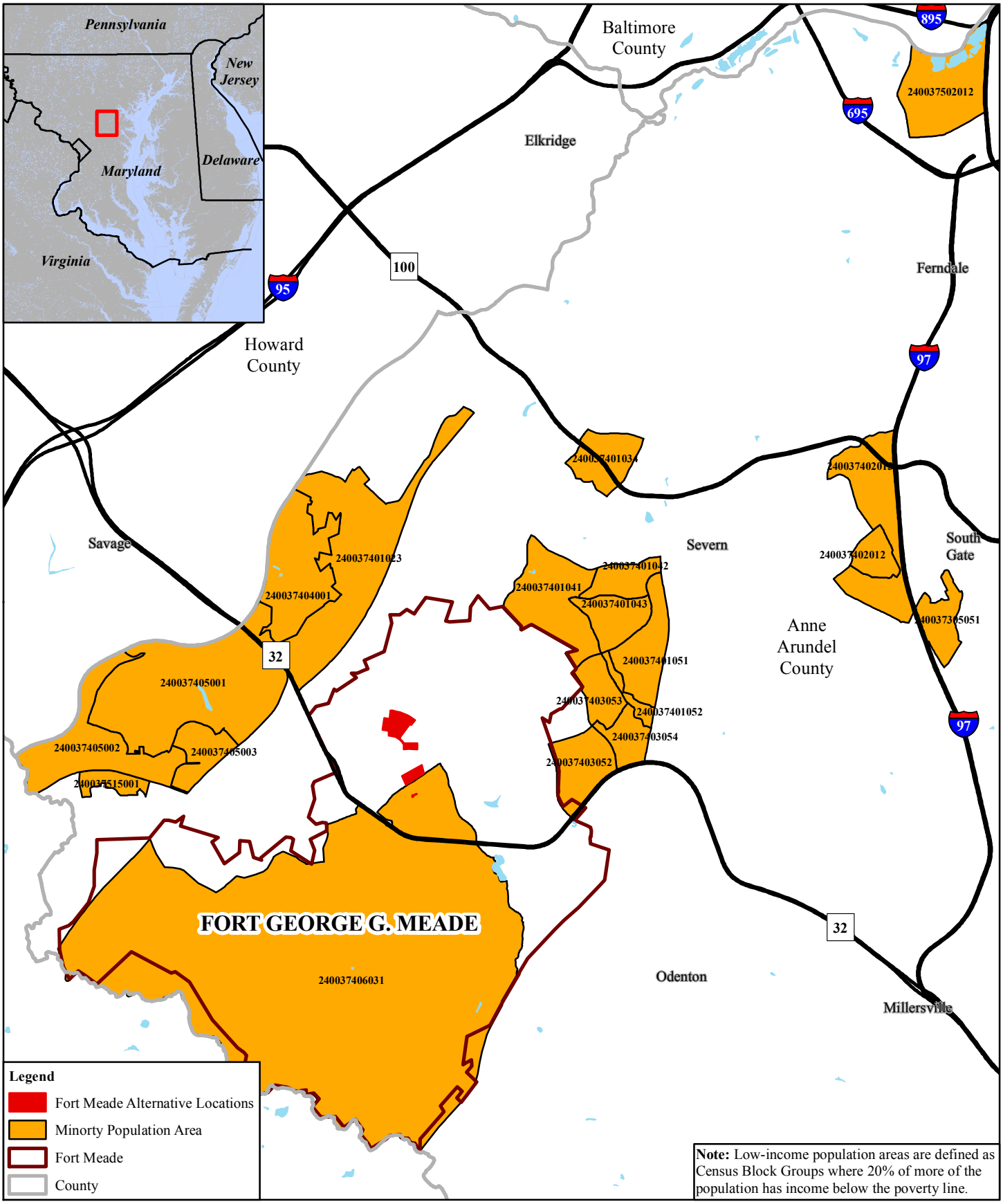


Figure 4-11: Environmental Justice for Minority Population Areas

1 in = 2 miles

0 0.5 1 2 Miles

Source: Census 2010

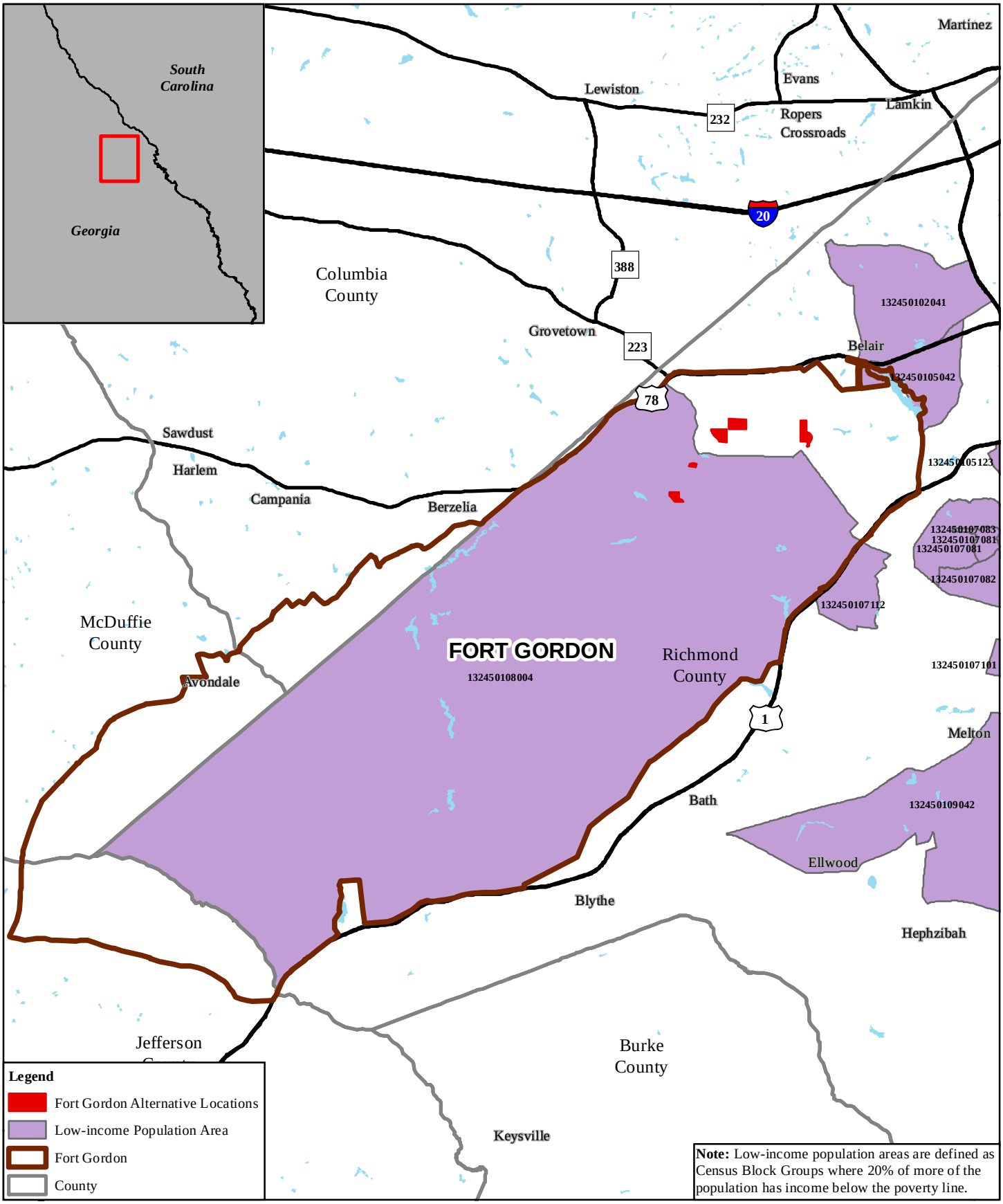


Figure 4-12: Environmental Justice for Low-Income Population Areas

1 in = 2 miles

0 1 2 4 Miles

Source: Census 2010b

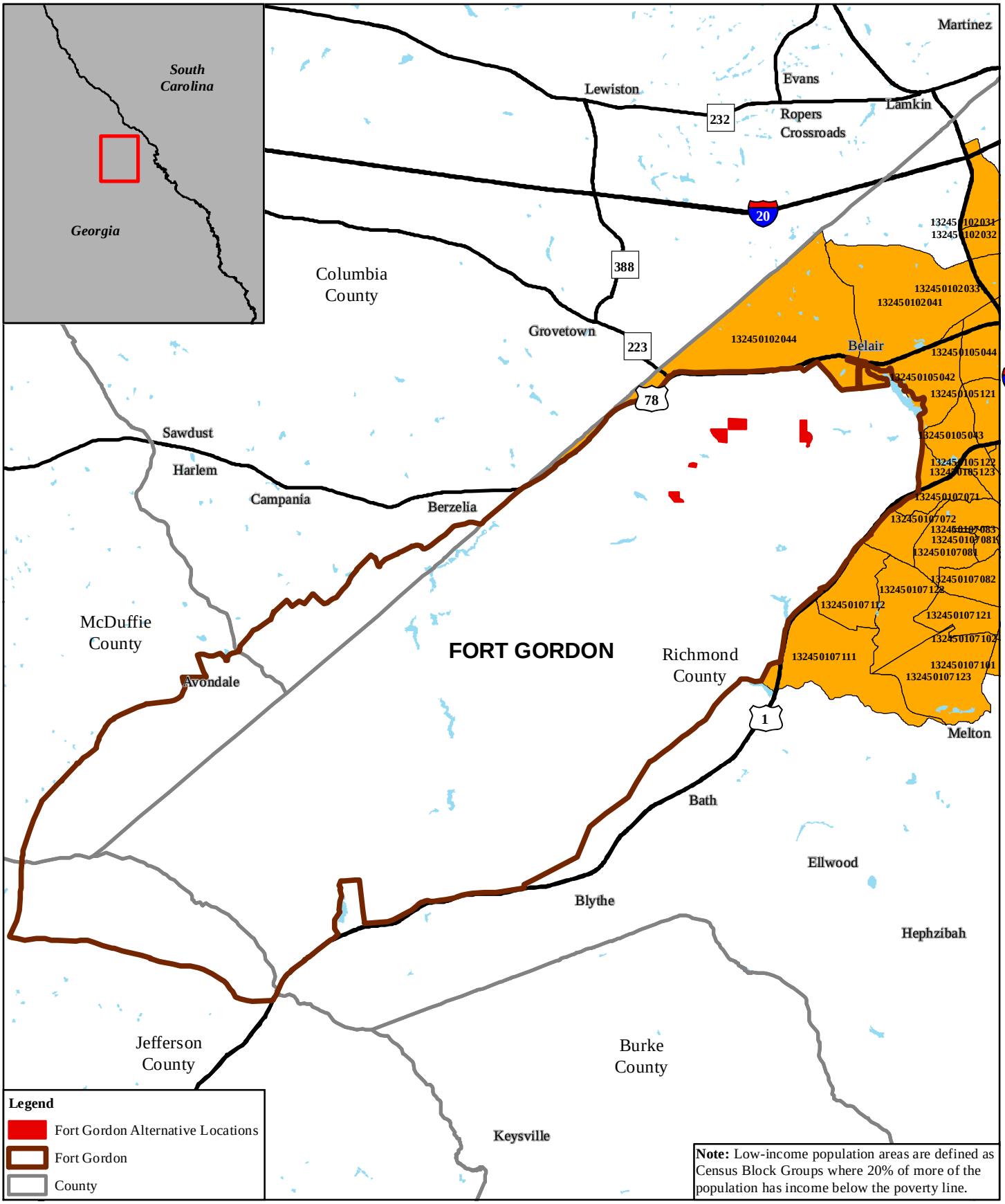


Figure 4-13: Environmental Justice for Minority Population Areas

1 in = 2 miles

0 1 2 4 Miles

Source: Census 2010b

APPENDIX B

COORDINATION
REGARDING
FORT GEORGE G. MEADE

US Army Corps
of Engineers
Baltimore District

Public Notice

Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia
Fort George G. Meade, Maryland

All Interested Parties: On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel.

The three alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon include: 1) construct a new facility at Fort Gordon in a 16-acre site southwest of the intersection of 110th Avenue and 15th Street; 2) renovate several buildings and construct additional space if needed within Back Hall Campus between 22nd to 25th and Chamberlain to Barnes; and 3) construct a wing on Whitelaw Hall as part of the planned Phase 2 development for the entire ARCYBER Command. All components are proposed within the cantonment area of the installation (Enclosure 1). Interim stationing would have the personnel currently located at Fort Belvoir and Fort Meade relocated to several buildings within Back Hall Campus at Fort Gordon.

The two alternatives to be evaluated in the EA for locating the command and control facility at Fort Meade include: 1) construction of a new facility at the northwest corner of Mapes Road and Taylor Avenue; and 2) construction of a new facility within the East Campus area located within the National Security Agency's fenceline and use Building 8605 for a portion of the administrative and logistics staff (Enclosure 2).

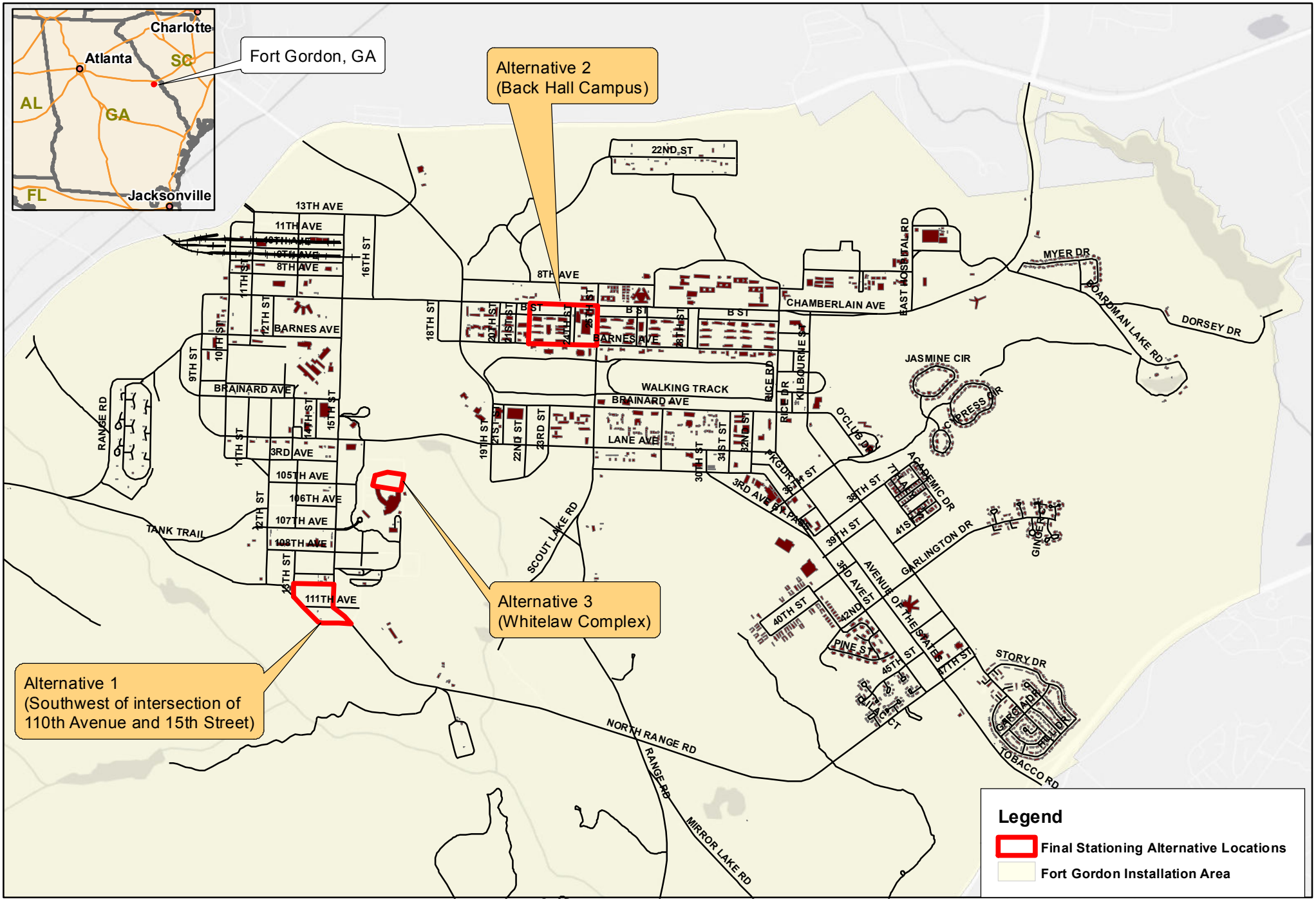
This EA will evaluate the potential environmental effects that may occur as a result of the Proposed Action and will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended.

Interested parties are invited to submit written comments for consideration within 30 days of this notice. Any comments received will be considered in the preparation of the EA. This Public Notice is being distributed to organizations and individuals that are known to have an interest in this project (Enclosures 3 and 4). Please bring this matter to the attention of any other organizations or individuals with an interest in this matter. Comments must be submitted within 30 days of the date of this notice to: ARCYBER_NEPA@usace.army.mil.

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Date: 12 April 2012

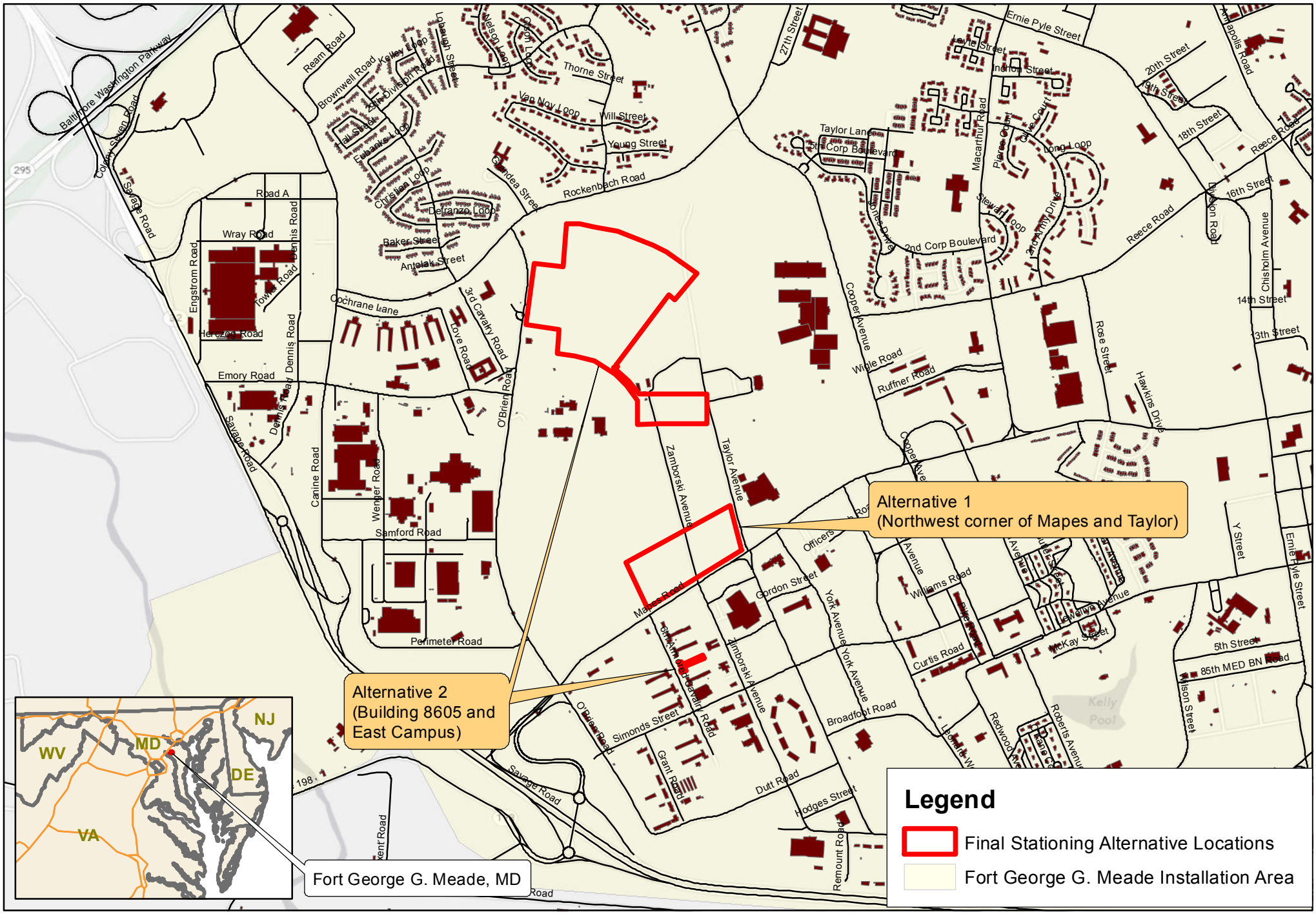
Enclosures



ENCLOSURE 1
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared March 13, 2012



ENCLOSURE 2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort George G. Meade, MD

0 750 1,500 3,000 4,500 6,000 Feet

Prepared March 13, 2012

ENCLOSURE 3
Public Notice Mail List
Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia

Federal and State Agencies

EPA Region 4
Heinz J. Mueller, Chief
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

Georgia Historic Preservation Division
Attn: Dr. David Crass
254 Washington Street, SW
Ground Level
Atlanta, GA 30334-9007

US Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

David M. Jennings
Environmental Protection Specialist
Installation Management Command, Atlantic Region
IMAT-PWD-E
705 Washington Boulevard
Fort Eustis, VA 23604-5515

Georgia Environmental Protection Division
Northeast District
Attn: Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Attn: Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

Georgia Dept. of Natural Resources
Historic Preservation Division
Attn: Ms. Elizabeth Shirk
254 Washington Street, SW; Ground Level;
Atlanta, GA 30334

Georgia Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329

Georgia Dept of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308

Regional and Local Offices

Brier Creek Soil and Water Conservation District
2531 Perkins Green Fork Road
Perkins, GA 30822-5337

Columbia County Soil and Water Conservation District
501 Greene Street, Suite 309
Augusta, GA 30901-4427

McDuffie County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

George Patty, Director
Augusta-Richmond
Planning and Development Department
525 Telfair Street
Augusta, GA 30901

Lillian Easterlin, Executive Director
Jefferson County Chamber of Commerce
P.O. Box 630
302 East Broad Street
Louisville, GA 30434

Department of Planning
Columbia County Government Center
630 Ronald Reagan Drive
Building A, West Wing
P.O. Box 498
Evans, GA 30809

McDuffie County Planning Commission
City/County Government Complex
210 Railroad Street
Thomson, GA 30824

ENCLOSURE 4
Public Notice Mail List
Environmental Assessment
Army Cyber Command and Control Facility
Fort George G. Meade

State and Federal Agencies

Ms. Lori Byrne
Maryland Dept. of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

Ms. Linda C. Janey
Maryland State Clearinghouse
Maryland Office of Planning, Suite 1101
301 West Preston Street
Baltimore, MD 21201-2365

Ms. Brigid E. Kenney
Office of the Secretary
Maryland Department of Environment
1800 Washington Blvd.
Baltimore, MD 21230

Mr. Leopoldo Miranda
U.S. Dept. of the Interior Fish & Wildlife Services
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Mr. William Arguto
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103
Mail Code EA30

Maryland Dept. of Housing & Community
Development Maryland Historical Trust
Division of Historical and Cultural Programs
ATTN: Elizabeth J. Cole
100 Community Place
Crownsville, MD 21032-2023

State of Maryland Dept. of Agriculture
ATTN: Ms. Joe Oberg
Public Information Officer
50 Harry S. Truman Parkway
Annapolis, Maryland 21401

Maryland Department of Planning
ATTN: Mr. Bob Rosenbush, Planner
301 West Preston Street, Suite 1101
Baltimore, MD 21201

Maryland Dept of Transportation
State Highway Administration
ATTN: Lee Johnston
707 North Calvert Street
Mail Stop C303
Baltimore, Maryland 21202

Regional and Local Offices

Ms. Ginger Ellis
Anne Arundel County Maryland
Office of Environmental & Cultural Resources
2664 Riva Rd
Annapolis, MD 21401

Mr. Joseph A. Haamid
Resource Conservationist
Anne Arundel Soil Conservation District
Heritage Office Center
2662 Riva Road, Suite 150, MS #7001
Annapolis, MD 21401-7377

Mr. George G. Cardwell
Anne Arundel County
Office of Planning and Zoning
Heritage Office Complex
2664 Riva Rd, MS 6403
Annapolis, MD 21401

Mr. Jean Friedberg
Fort Meade RGMC
6751 Columbia Gateway Drive
Suite 500
Columbia, MD 21046

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

Ms. Lori Byrne
Maryland Dept. of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

Dear Ms. Byrne:

On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

The two alternatives to be evaluated in the EA for locating the command and control facility at Fort Meade include: 1) construction of a new facility at the northwest corner of Mapes Road and Taylor Avenue; and 2) construction of a new facility within the East Campus area located within the National Security Agency's fenceline and use Building 8605 for a portion of the administrative and logistics staff. Please see the attached Public Notice for a map and description of these alternatives as well as the alternatives proposed for Fort Gordon. Fort Gordon's alternatives will be reviewed by its local, state and federal agencies.

To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 30 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil.

Sincerely,

Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

Ms. Linda C. Janey
Maryland State Clearinghouse
Maryland Office of Planning, Room 1104
301 West Preston Street
Baltimore, MD 21201-2365

Dear Ms. Janey:

On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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Sincerely,

Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

Ms. Brigid E. Kenney
Office of the Secretary
Maryland Department of Environment
1800 Washington Blvd.
Baltimore, MD 21230

Dear Ms. Kenney:

On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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Sincerely,

Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

Mr. Leopoldo Miranda
Chesapeake Bay Field Office
U.S. Department of the Interior Fish and Wildlife Service
177 Admiral Cochrane Drive
Annapolis, MD 21401

Dear Mr. Miranda:

On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

The two alternatives to be evaluated in the EA for locating the command and control facility at Fort Meade include: 1) construction of a new facility at the northwest corner of Mapes Road and Taylor Avenue; and 2) construction of a new facility within the East Campus area located within the National Security Agency's fenceline and use Building 8605 for a portion of the administrative and logistics staff. Please see the attached Public Notice for a map and description of these alternatives as well as the alternatives proposed for Fort Gordon. Fort Gordon's alternatives will be reviewed by its local, state and federal agencies.

The purpose of this letter is to request a review of the project area and to solicit comments from your agency regarding impacts, if any, to threatened and endangered species in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) and Section 7 of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq).

To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 30 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil.

Sincerely,

Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

Mr. William Arguto
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103
Mail Code EA30

Dear Mr. Arguto:

On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

Maryland Department of Planning
ATTN: Mr. Bob Rosenbush, Planner
301 West Preston Street, Suite 1101
Baltimore, MD 21201

Dear Mr. Rosenbush:

On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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Sincerely,

Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

Ms. Genevieve LaRouche
Chesapeake Bay Field Office
U.S. Department of the Interior Fish and Wildlife Service
177 Admiral Cochrane Drive
Annapolis, MD 21401

Dear Ms. LaRouche:

On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District, distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. The Public Notice advised that ARCYBER is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland (Enclosure 1). With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

As noted in the April 12, 2012, Public Notice, ARCYBER originally considered five alternatives for locating the new command and control facility. During the planning process, an additional site has been added to the alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon. This sixth alternative includes construction of a new facility along Kilbourne Street, which is located within the cantonment area of Fort Gordon (Enclosure 2). The addition of this site has prompted the submission of the attached Supplement to the Public Notice. Should additional sites be added during the planning process, you will have the opportunity to review when the draft EA is made available for public review.

The purpose of this letter is to request a review of the additional project area and to solicit comments from your agency regarding impacts, if any, to threatened and endangered species in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) and Section 7 of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq).

Attached are the comments that we received from your office regarding the April 12, 2012, Public Notice. To assist us in identifying issues that may affect the implementation of this project, please provide only additional written comments within 15 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil. Please note that it is not necessary to resubmit comments previously sent regarding this project. All comments received as a result of the April 12, 2012, Public Notice and this Supplement to the Public Notice will be considered in the preparation of the EA.

Sincerely,

Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

From: Janet_Norman@fws.gov
Sent: Thursday, July 12, 2012 12:39 PM
To: CENAB-PL ARCYBER_NEPA
Cc: Gomez, Michele NAB
Subject: USFWS End. Species request on potential ARCYBER command facility at Ft. Meade
Attachments: ARCYBER Ft Meade.pdf

Dear ARCYBER staff,

At the request of the U.S. Army Corps of Engineers, Baltimore District, I am enclosing the U.S. Fish and Wildlife Service's letter on the absence of Federally listed species on Ft. George G. Meade.

The USFWS still has significant concerns for the responsible development of any buildings for this command, as your proposed location is directly upstream of the USFWS Patuxent Research Refuge lands, totalling 12, 841 acres where researchers conduct important studies and habitats are protected and managed for wildlife.

As we have indicated on our comments for the Ft. Meade Integrated Natural Resource Management Plan, and due to our National Wildlife Refuge downstream of your building site, we recommend that no coal-tar sealants be used for parking lots or roads in the new or renovated building construction. Asphalt-based sealants with far less contaminant leachate are readily available. We recommend that stormwater runoff be contained on-site and the highest level of environmental site design be employed.

As your site selection and building design progresses, please keep the USFWS apprised of your specific development plans. Thank you for considering our comments.

(See attached file: ARCYBER Ft Meade.pdf)

Janet Norman

Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
Phone (410) 573-4533
Fax (410) 269-0832
email: janet_norman@fws.gov
http://www.fws.gov/chesapeakebay

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

July 12, 2012

Mr. Lawrence D. Eastman
Chief, Planning and Environmental Services
Department of the Army
Baltimore District, Corps of Engineers
P.O. Box 1715
Baltimore, MD 21203-1715

RE: Potential U.S. Army Cyber Command (ARCYBER) at Fort George G. Meade, Maryland.

Dear Mr. Eastman:

This responds to your letter, received April 16, 2012, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above reference project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Additional comments under the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*) may be forthcoming.

Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

Effective August 8, 2007, under the authority of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (Service) removed (delist) the bald eagle in the lower 48 States of the United States from the Federal List of Endangered and Threatened Wildlife. However, the bald eagle will still be protected by the Bald and Golden Eagle Protection Act, Lacey Act and the Migratory Bird Treaty Act. As a result, starting on August 8, 2007, if your project may cause “disturbance” to the bald eagle, please consult the “National Bald Eagle Management Guidelines” dated May 2007.

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If any planned or ongoing activities cannot be conducted in compliance with the National Bald Eagle Management Guidelines (Eagle Management Guidelines), please contact the Chesapeake Bay Ecological Services Field Office at 410-573-4573 for technical assistance. The Eagle Management Guidelines can be found at: **http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf.**

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities. This proposed permit process will not be available until the Service issues a final rule for the issuance of these take permits under the Bald and Golden Eagle Protection Act.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Devin Ray at (410) 573-4531.

Sincerely,

G. La Rouche

Genevieve LaRouche
Supervisor

US Army Corps of Engineers
Baltimore District

Supplement to Public Notice

Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia
Fort George G. Meade, Maryland

All Interested Parties: On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. The Public Notice advised that ARCYBER is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland (Enclosure 1). With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel.

As noted in the April 12, 2012, Public Notice, ARCYBER originally considered five alternatives for locating the new command and control facility. During the planning process, an additional site has been added to the alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon. This sixth alternative includes construction of a new facility along Kilbourne Street, which is located within the cantonment area of Fort Gordon (Enclosure 2). The addition of this site has prompted the submission of this Supplement to the Public Notice. Should additional sites be added during the planning process, you will have the opportunity to review when the draft EA is made available for public review.

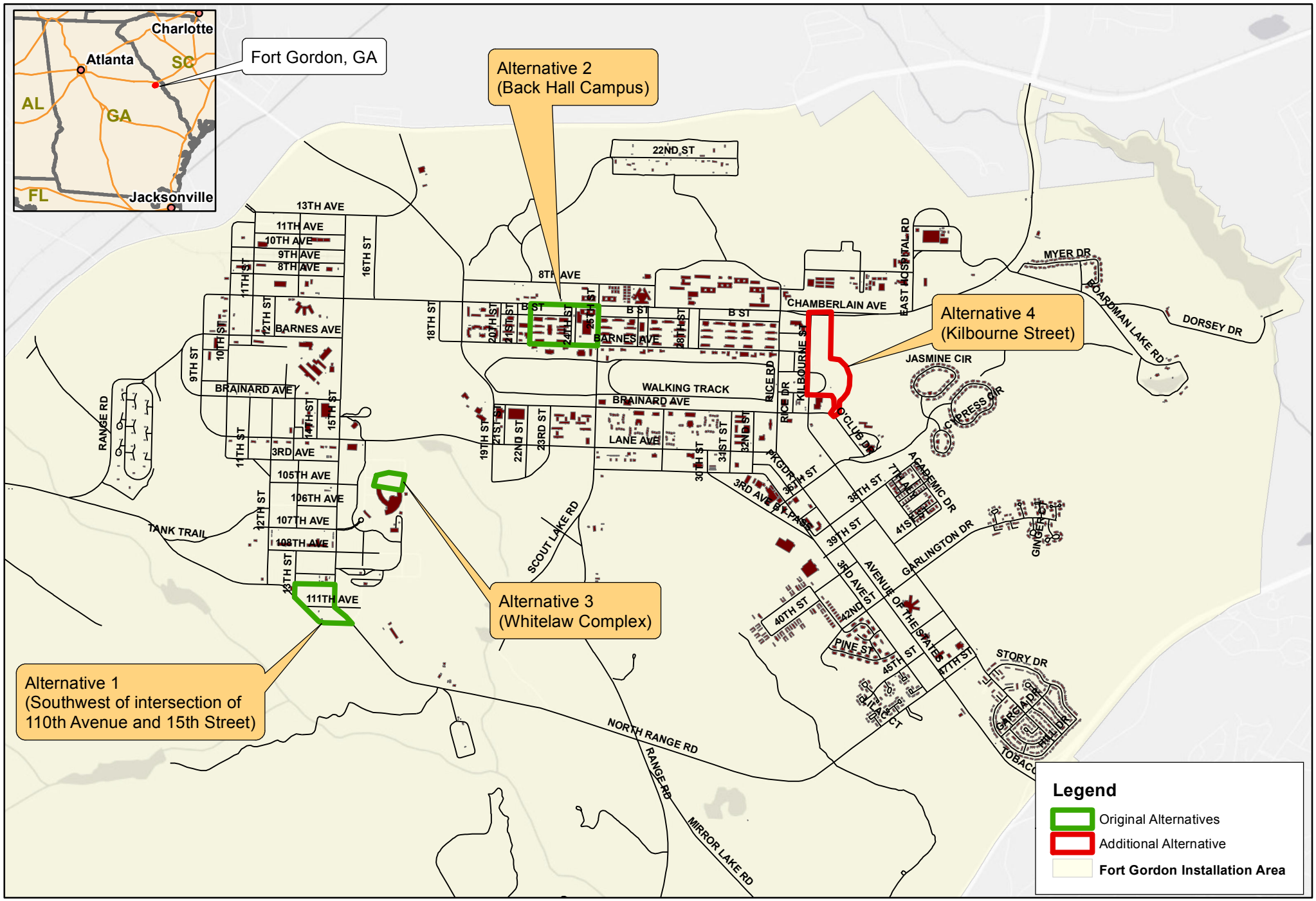
The EA will evaluate the potential environmental effects that may occur as a result of the Proposed Action and will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended.

Interested parties are invited to submit written comments for consideration within 15 days of this notice. Please note that it is not necessary to resubmit comments previously sent regarding this project. All comments received as a result of the April 12, 2012, Public Notice and this Supplement to the Public Notice will be considered in the preparation of the EA. This Public Notice is being distributed to organizations and individuals that are known to have an interest in this project (Enclosures 3 and 4). Please bring this matter to the attention of any other organizations or individuals with an interest in this matter. Comments must be submitted within 15 days of the date of this notice to: ARCYBER_NEPA@usace.army.mil.

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Date: Aug 7, 2012

Enclosures



ENCLOSURE 2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared July 30, 2012

ENCLOSURE 3
Public Notice Mail List
Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia

Federal and State Agencies

EPA Region 4
Mr. Heinz J. Mueller, Chief
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

Georgia Historic Preservation Division
Attn: Dr. David Crass
254 Washington Street, SW
Ground Level
Atlanta, GA 30334-9007

US Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

Mr. David M. Jennings
Environmental Protection Specialist
Installation Management Command, Atlantic Region
IMAT-PWD-E
705 Washington Boulevard
Fort Eustis, VA 23604-5515

Georgia Environmental Protection Division
Northeast District
Attn: Mr. Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Attn: Ms. Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

Georgia Dept. of Natural Resources
Historic Preservation Division
Attn: Ms. Elizabeth Shirk
254 Washington Street, SW; Ground Level;
Atlanta, GA 30334

Mr. Jon A. West
Georgia Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329

Ms. Amber Phillips
Georgia Dept of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308

Regional and Local Offices

Mr. Ron Milligan
Brier Creek Soil and Water Conservation District
2531 Perkins Green Fork Road
Perkins, GA 30822-5337

Mr. Robert Amos
Columbia County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

Mr. Robert Amos
McDuffie County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

Mr. George Patty, Director
Augusta-Richmond
Planning and Development Department
525 Telfair Street
Augusta, GA 30901

Ms. Lillian Easterlin, Executive Director
Jefferson County Chamber of Commerce
P.O. Box 630
302 East Broad Street
Louisville, GA 30434

Ms. Nayna Mistry
Department of Planning
Columbia County Government Center
630 Ronald Reagan Drive
Building A, West Wing
P.O. Box 498
Evans, GA 30809

Ms. Gail Newsome
McDuffie County Planning Commission
City/County Government Complex
210 Railroad Street
Thomson, GA 30824

ENCLOSURE 4
Public Notice Mail List
Environmental Assessment
Army Cyber Command and Control Facility
Fort George G. Meade

State and Federal Agencies

Ms. Lori Byrne
Maryland Dept. of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

Ms. Linda C. Janey
Maryland State Clearinghouse
Maryland Office of Planning, Suite 1101
301 West Preston Street
Baltimore, MD 21201-2365

Ms. Brigid E. Kenney
Office of the Secretary
Maryland Department of Environment
1800 Washington Blvd.
Baltimore, MD 21230

Ms. Genevieve LaRouche
U.S. Dept. of the Interior Fish & Wildlife Services
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Mr. William Arguto
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103
Mail Code EA30

Maryland Dept. of Housing & Community
Development Maryland Historical Trust
Division of Historical and Cultural Programs
ATTN: Ms. Elizabeth J. Cole
100 Community Place
Crownsville, MD 21032-2023

State of Maryland Dept. of Agriculture
ATTN: Ms. Joe Oberg
Public Information Officer
50 Harry S. Truman Parkway
Annapolis, Maryland 21401

Maryland Department of Planning
ATTN: Mr. Bob Rosenbush, Planner
301 West Preston Street, Suite 1101
Baltimore, MD 21201

Maryland Dept of Transportation
State Highway Administration
ATTN: Ms. Kathryn Robbins
707 North Calvert Street
Mail Stop C303
Baltimore, Maryland 21202

Regional and Local Offices

Ms. Ginger Ellis
Anne Arundel County Maryland
Office of Environmental & Cultural Resources
2664 Riva Rd
Annapolis, MD 21401

Mr. Joseph A. Haamid
Resource Conservationist
Anne Arundel Soil Conservation District
Heritage Office Center
2662 Riva Road, Suite 150, MS #7001
Annapolis, MD 21401-7377

Mr. George G. Cardwell
Anne Arundel County
Office of Planning and Zoning
Heritage Office Complex
2664 Riva Rd, MS 6403
Annapolis, MD 21401

Mr. Jean Friedberg
Fort Meade RGMC
6751 Columbia Gateway Drive
Suite 500
Columbia, MD 21046

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

Maryland Department of Planning
ATTN: Mr. Bob Rosenbush, Planner
301 West Preston Street, Suite 1101
Baltimore, MD 21201

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Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

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1650 Arch Street
Philadelphia, PA 19103
Mail Code EA30

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Sincerely,

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Chief, Planning and Environmental
Services Branch

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

Ms. Linda C. Janey
Maryland State Clearinghouse
Maryland Office of Planning, Room 1104
301 West Preston Street
Baltimore, MD 21201-2365

Dear Ms. Janey:

On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District, distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. The Public Notice advised that ARCYBER is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland (Enclosure 1). With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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Attached is the response that we received from your office regarding the April 12, 2012, Public Notice. To assist us in identifying issues that may affect the implementation of this project, please provide only additional written comments within 15 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil. Please note that it is not necessary to resubmit comments previously sent regarding this project. All comments received as a result of the April 12, 2012, Public Notice and this Supplement to the Public Notice will be considered in the preparation of the EA.

Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Maryland Department of Planning

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

April 17, 2012

Mr. Lawrence Eastman
Chief, Planning and Environmental Services Branch
U.S. Army Corps of Engineers, Baltimore District
P.O. Box 1715
Baltimore, MD 21203-1715

STATE CLEARINGHOUSE REVIEW PROCESS

State Application Identifier: MD20120416-0243
Reviewer Comments Due By: May 9, 2012
Project Description: Scoping prior to E.A.: Army Cyber Command and Control Facility to be Located at Fort Gordon, GA or Fort George G. Meade, MD
Project Location: State of Georgia, and Anne Arundel County
Clearinghouse Contact: Bob Rosenbush

Dear Mr. Eastman:

Thank you for submitting your project for intergovernmental review. Participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps ensure project consistency with plans, programs, and objectives of State agencies and local governments. MIRC enhances opportunities for approval and/or funding and minimizes delays by resolving issues before project implementation.

The following agencies and/or jurisdictions have been forwarded a copy of your project for their review: the Maryland Department(s) of Transportation, the Environment, Natural Resources; the Maryland Military Department; the County of Anne Arundel; and the Maryland Department of Planning; including the Maryland Historical Trust. They have been requested to contact your agency directly by **May 9, 2012** with any comments or concerns and to provide a copy of those comments to the State Clearinghouse for Intergovernmental Assistance. Please be assured that after **May 9, 2012** all MIRC requirements will have been met in accordance with Code of Maryland Regulations (COMAR 34.02.01.04- 06). The project has been assigned a unique State Application Identifier that should be used on all documents and correspondence.

If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at brosenbush@mdp.state.md.us. Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey

Linda C. Janey, J.D., Assistant Secretary

LCJ:BR

cc: Beth Cole - MHT
Melinda Gretsinger - MDOT
Joane Mueller - MDE
Greg Golden - DNR
Lawrence Leone - MILT
John Dodds - ANARP
Mike Paone – MDPL
Bihui Xu - MDPI-T

12-0243_NDC.NEW.doc

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

Ms. Lori Byrne
Maryland Dept. of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

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On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District, distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. The Public Notice advised that ARCYBER is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland (Enclosure 1). With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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Attached are the comments that we received from your office regarding the April 12, 2012, Public Notice. To assist us in identifying issues that may affect the implementation of this project, please provide only additional written comments within 15 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil. Please note that it is not necessary to resubmit comments previously sent regarding this project. All comments received as a result of the April 12, 2012, Public Notice and this Supplement to the Public Notice will be considered in the preparation of the EA.

Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Joseph P. Gill, Deputy Secretary

May 4, 2012

Lawrence Eastman
USACOE- Baltimore District
PO Box 1715
Baltimore, MD 21203

RE: Environmental Review for US Army Cyber Command, EA prep for ARCYBER command/control facility at Fort George G. Meade or out of state alternate site: new facility at either NW corner of Mapes Road and Taylor Ave or within East Campus in NSA fenceline and use building, Anne Arundel County, MD.

Dear Mr. Eastman:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. As a result, we have no specific comments or requirements pertaining to protection measures at this time. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Lori A. Byrne

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2012.0587.aa

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

Ms. Brigid E. Kenney
Office of the Secretary
Maryland Department of Environment
1800 Washington Blvd.
Baltimore, MD 21230

Dear Ms. Kenney:

On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District, distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. The Public Notice advised that ARCYBER is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland (Enclosure 1). With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

As noted in the April 12, 2012, Public Notice, ARCYBER originally considered five alternatives for locating the new command and control facility. During the planning process, an additional site has been added to the alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon. This sixth alternative includes construction of a new facility along Kilbourne Street, which is located within the cantonment area of Fort Gordon (Enclosure 2). The addition of this site has prompted the submission of the attached Supplement to the Public Notice. Should additional sites be added during the planning process, you will have the opportunity to review when the draft EA is made available for public review.

Attached are the comments that we received from your office regarding the April 12, 2012, Public Notice. To assist us in identifying issues that may affect the implementation of this project, please provide only additional written comments within 15 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil. Please note that it is not necessary to resubmit comments previously sent regarding this project. All comments received as a result of the April 12, 2012, Public Notice and this Supplement to the Public Notice will be considered in the preparation of the EA.

Sincerely,

Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

May 9, 2012

Mr. Lawrence Eastman
U.S. Army Corps of Engineers, Baltimore District
P.O. Box 1715
Baltimore, MD 21203

RE: State Application Identifier: MD20120416-0243
Project: Scoping...Army Cyber Command and Control Facility

Dear Mr. Eastman:

Thank you for the opportunity to review the above referenced project. The document was circulated throughout the Maryland Department of the Environment (MDE) for review, and the following comments are offered for your consideration.

1. Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.

2. If the proposed project involves demolition – Any above ground or underground petroleum storage tanks that may be on site must have contents and tanks along with any contamination removed. Please contact the Oil Control Program at (410) 537-3442 for additional information.

3. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Waste Diversion and Utilization Program at (410) 537-3314 for additional information regarding recycling activities.

4. The Waste Diversion and Utilization Program should be contacted directly at (410) 537-3314 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations. The Program should also be contacted prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and federal laws and regulations.

5. Any contract specifying "lead paint abatement" must comply with Code of Maryland Regulations (COMAR) 26.16.01 - Accreditation and Training for Lead Paint Abatement Services. If a property was built before 1950 and will be used as rental housing, then compliance with COMAR 26.16.02 - Reduction of Lead Risk in Housing; and Environment Article Title 6, Subtitle 8, is required. Additional guidance regarding projects where lead paint may be encountered can be obtained by contacting the Environmental Lead Division at (410) 537-3825.

6. The proposed project may involve rehabilitation, redevelopment, revitalization, or property acquisition of commercial, industrial property. Accordingly, MDE's Brownfields Site Assessment and Voluntary Cleanup Programs (VCP) may provide valuable assistance to you in this project. These programs involve environmental site assessment in accordance with accepted industry and financial institution standards for property transfer. For specific information about these programs and eligibility, please contact the Land Restoration Program at (410) 537-3437.

In addition, information from MDE's Science Services Administration is enclosed.

Again, thank you for giving MDE the opportunity to review this project. If you have any questions or need additional information, please feel free to call me at (410) 537-4120.

Sincerely,

Joane D. Mueller
MDE Clearinghouse Coordinator
Office of Communications

Enclosure
cc: Bob Rosenbush, State Clearinghouse

EA: Command and Control Facility Construction

Maryland Department of the Environment - Science Services Administration

REVIEW FINDING: R1 Consistent with Qualifying Comments (MD2012 0416-0243)

The following additional comments are intended to alert interested parties to issues regarding water quality standards. The comments address:

A. Water Quality Impairments: Section 303(d) of the federal Clean Water Act requires the State to identify impaired waters and establish Total Maximum Daily Loads (TMDLs) for the substances causing the impairments. A TMDL is the maximum amount of a substance that can be assimilated by a waterbody such that it still meets water quality standards.

Planners should be aware of existing water quality impairments identified on Maryland's 303(d) list. The Project is situated in the Little Patuxent River watershed, identified by the 8-digit code 02131105 which is currently impaired by several substances and subject to regulations regarding the Clean Water Act.

Planners may find a list of nearby impaired waters by entering the 8-digit basin code into an on-line database linked to the following URL: http://www.mde.state.md.us/programs/Water/TMDL/Integrated303dReports/Pages/303d.aspx.

This list is updated every even calendar year. Planners should review this list periodically to help ensure that local decisions consider water quality protection and restoration needs. **Briefly, the current impairments that are relevant to the Project include the following:**

Little Patuxent River (02131105)

Sediments:	**Non-tidal. A TMDL has been written and submitted to EPA.**
Metals:	**Non-tidal. A TMDL for Cadmium is pending development.**
Biological:	**Non-tidal. A TMDL is pending development.**

B. TMDLs: Development and implementation of any Plan should take into account consistency with TMDLs developed for the impaired waterbodies referenced above. Government decisions made prior to the development of a TMDL should strive to ensure no net increase of impairing substances. TMDLs are made available on an updated basis at the following web site: http://www.mde.state.md.us/programs/Water/TMDL/CurrentStatus/Pages/Programs/WaterPrograms/TMDL/Sumittals/index.aspx

Special protections for high-quality waters in the local vicinity, which are identified pursuant to Maryland's anti-degradation policy;

C. Anti-degradation of Water Quality: Maryland requires special protections for waters of very high quality (Tier II waters). The policies and procedures that govern these special waters are commonly called "anti-degradation policies." This policy states that "proposed amendments to county plans or discharge permits for discharge to Tier II waters that will result in a new, or an increased, permitted annual discharge of pollutants and a potential impact to water quality, shall evaluate alternatives to eliminate or reduce discharges or impacts." These permitted annual discharges are not just traditional Point Sources, it can include all discharges such as Stormwater.

Currently, Tier II waters are not present in the area surrounding the project.

Planners should be aware of legal obligations related to Tier II waters described in the Code of Maryland Regulations (COMAR) 26.08.02.04 with respect to current and future land use plans. Information on Tier II waters can be obtained online at: http://www.dsd.state.md.us/comar/getfile.aspx?file=26.08.02.04.htm and policy implementation procedures are located at http://www.dsd.state.md.us/comar/getfile.aspx?file=26.08.02.04-1.htm

Planners should also note that since the Code of Maryland Regulations is subject to periodic updates. A list of Tier II waters pending Departmental listing in COMAR can be found, with a discussion and maps for each county, at the following website:
http://www.mde.state.md.us/programs/researchcenter/EnvironmentalData/Pages/researchcenter/data/waterqualitystandards/antidegradation/index.aspx

ADDITIONAL COMMENTS

Chesapeake Bay TMDL

With the completion of the Chesapeake Bay TMDL, the Chesapeake Bay Program Office (CBPO) will be able to provide loading data at a more refined scale than in the past. MDE will be able to use the CBPO data to estimate pollution allocations at the jurisdictional level (which will include Federal Facilities) to provide allocations to the Facilities. These allocations, both Wasteload (WLA) and Load Allocation (LA) could call for a reduction in both Point Sources and Nonpoint Sources. **Facilities should be aware of reductions and associated implementation required by WIPs or FIPs.**

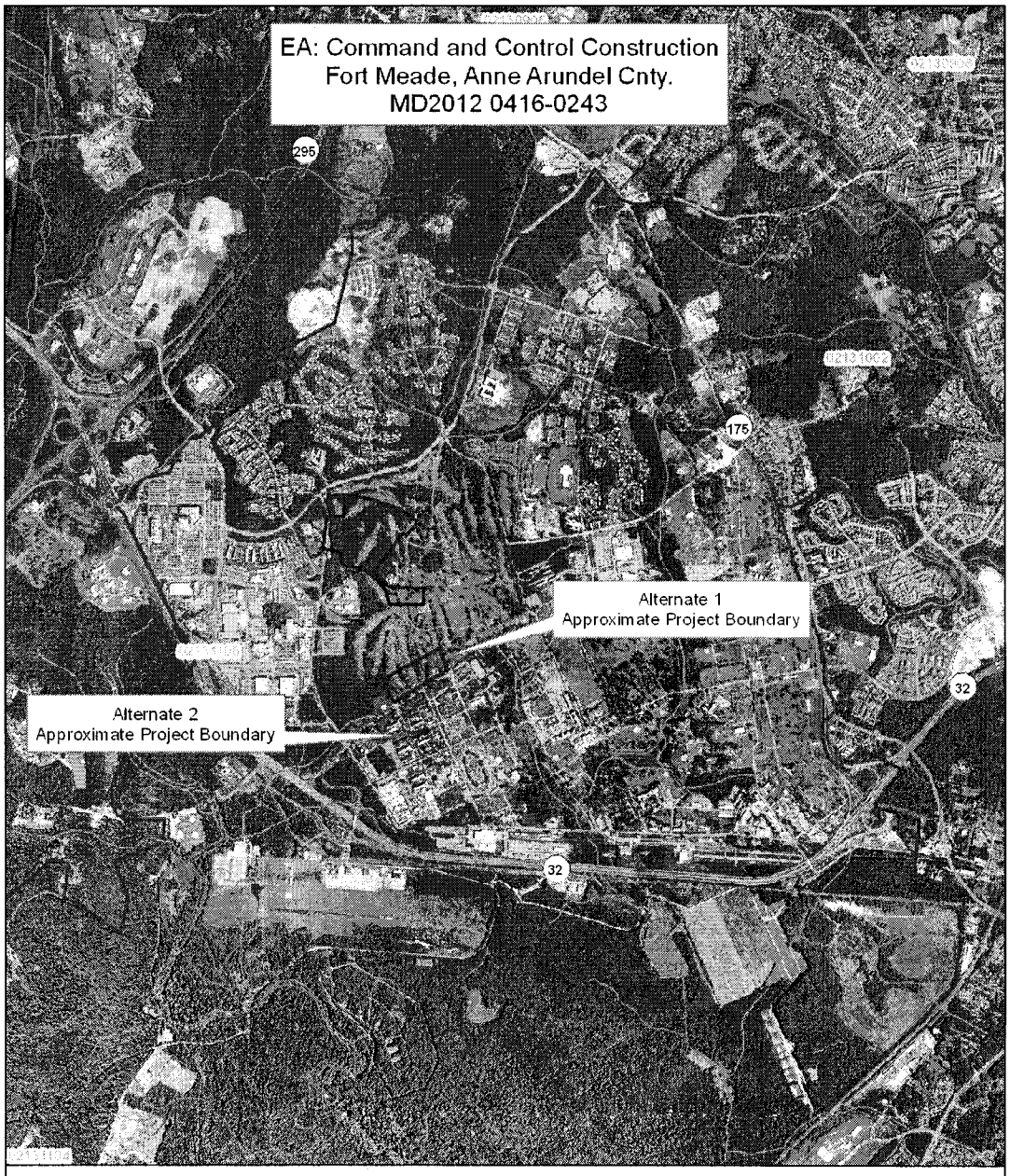
Stormwater

The project should consider all Maryland Stormwater Management Controls. Site Designs should consider all Environmental Site Design to the Maximum Extent Practicable and "Green Building" Alternatives. Designs that reduce impervious surface and BMPs that increase runoff infiltration are highly encouraged.

Further Information:
http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Pages/Programs/WaterPrograms/SedimentandStormwater/swm2007.aspx

Environmental Site Design (Chapter 5):
http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Documents/www.mde.state.md.us/assets/document/chapter5.pdf

Redevelopment Regulations:
http://www.dsd.state.md.us/comar/comarhtml/26/26.17.02.05.htm



Legend

- Streams
- MD High Quality Waters
- MD High Quality Waters
- Federal Lands
- County Line
- 8-digit Watershed

Map Date: 4/24/2012 **Drawn By:** MDE SSA

0.3 0.15 0 0.3 0.6 Kilometers

0.2 0.1 0 0.2 0.4 Miles

Data Sources:

Streams - State Highway Administration
Major Roads - State Highway Administration
Watersheds - 8-digit - MD Dept. of the Environment

MARYLAND

MDE

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON
4551 LLEWELLYN AVENUE, SUITE 5000
FORT GEORGE G. MEADE, MARYLAND 20755-5000

REPLY TO
ATTENTION OF:

JUL 11 2012

Directorate of Public Works

Ms. Elizabeth Cole, Administrator
Project Review / Compliance
Maryland Historical Trust
100 Community Place
Crownsville, Maryland 21032

Dear Ms. Cole:

The purpose of this letter is to consult with your office as required by Section 106 of the National Historic Preservation Act regarding the proposed command and control facility for the U.S. Army Cyber (ARCYBER) Command at Fort George G. Meade, Anne Arundel County, Maryland, or Fort Gordon, Georgia. In order to accommodate the relocation and projected growth of the ARCYBER Command, a new or existing facility at Fort Meade or Fort Gordon must be obtained that is capable of supporting a workforce of approximately 1,500 personnel.

Two alternatives are being considered for relocating the ARCYBER Command to Fort Meade, as shown in Enclosure 1. The first alternative involves construction of a new facility at the northwest corner of Mapes Road and Taylor Avenue. The second alternative involves construction of a new facility in the East Campus Area of Fort Meade, and using existing Fort Meade Building 8605 to house a portion of the administrative and logistics staff.

The proposed location of the first alternative at the corner of Mapes Road and Taylor Avenue is currently part of Fort Meade's golf course. This location was investigated for its potential to contain archaeological resources in the 1995 *Archeological Study of Fort Meade* (Hornum et al. 1995:91). The study determined that the area was disturbed and had a low potential for containing intact archaeological resources. There are no existing buildings at this location.

Under the second alternative, new construction would be part of the development of Fort Meade's East Campus (formerly known as "Site M"), an undertaking currently under separate Section 106 review by your office in consultation with Fort Meade, the Baltimore District, and the National Security Agency (MD20090717-1052). By letter to your office dated May 4, 2012, the Baltimore District determined that no historic properties are located on the East Campus property.

Building 8605, a barracks building constructed in 1954, was previously evaluated for National Register eligibility under Maryland Historical Trust Determination of Eligibility Inventory Number AN-0071. Your office concurred with Fort Meade's ineligibility determination for this building on February 10, 2005.

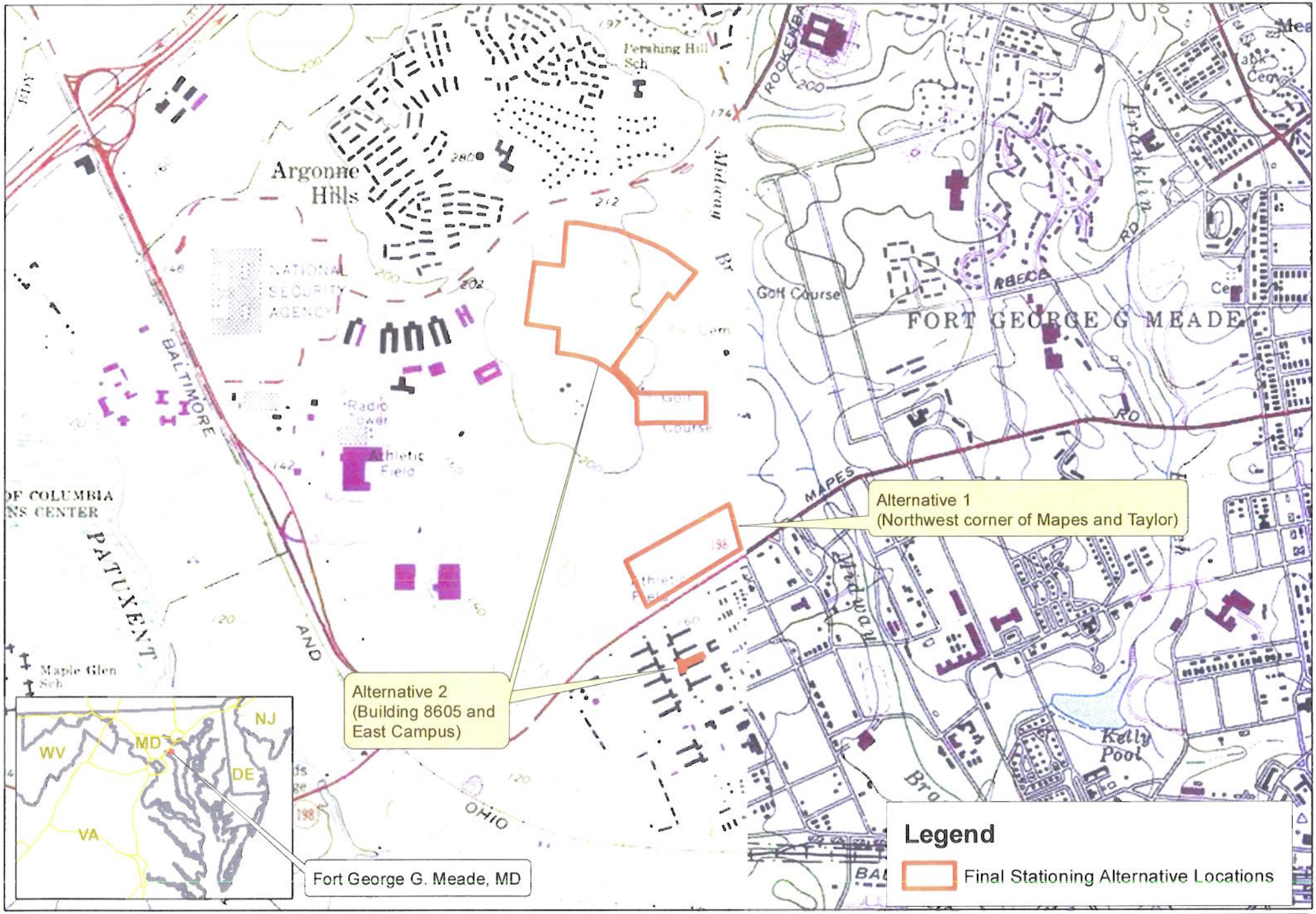
No historic properties are located at any of the alternative locations being considered for the proposed command and control facility for the ARCYBER Command. None of the proposed alternative locations are within the view shed of Fort Meade's historic properties, including the National Register Historic District, and the National Register eligible water treatment plant. Fort Meade has therefore determined that implementation of either of the proposed alternatives here at Fort Meade, Maryland, will have no effect on historic properties, and no further work is recommended. Should we become aware, from any source, that historic properties are located at or near the property, we will notify your office immediately. Questions regarding this matter should be directed to Fort Meade's Cultural Resource Program Manager, Jerry Glodek. Mr. Glodek can be reached at 301-677-9179 or by email at jerald.w.glodek.civ@mail.mil.

Sincerely,

Michael P. Butler

Enclosures

Michael P. Butler
Chief, Environmental Division



USGS Quadrangle
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort George G. Meade, MD

0 750 1,500 3,000 4,500 6,000 Feet

Prepared May 23, 2012

From: George Cardwell [PZCARD44@aacounty.org]
Sent: Monday, August 13, 2012 11:49 AM
To: CENAB-PL ARCYBER_NEPA
Cc: Robert (Bob) Leib; Ginger Ellis; Carole Sanner
Subject: Supplement to Public Notice ARCYBERCOM EIS
Attachments: 03-30-12 AAC Comments Re Cyber EA at FGGM.pdf

Mr. Eastman:

Anne Arundel County is in receipt of the Supplement to Public Notice for the EIS to evaluate impacts associated with the proposed ARCYBER command and control facility to be located at either Fort Meade, Maryland or Fort Gordon, Georgia. Thank you for providing us with the Supplement.

Under previous cover, the County provided scoping comments specific to the proposed action at Fort Meade, Maryland which is located within Anne Arundel County. I have attached a copy of our prior scoping comments specific to the Fort Meade proposal, for your information.

We have no further comments to provide at this time and offer no comments specific to sites being considered at Fort Gordon, Georgia.

Sincerely,

George G. Cardwell, AICP
Planning Administrator
Transportation Division
Anne Arundel County Office of Planning and Zoning
2664 Riva Road MS-6402
Annapolis, MD 21401

Phone: (410) 222-7440
Fax: (410) 222-7255
PZCARD44@aacounty.org

ANNE ARUNDEL COUNTY
MARYLAND

County Executive John R. Leopold
P.O. Box 2700, Annapolis , MD 21404

March 30, 2012

Jeffrey Williams
Environmental and Safety Services
Department of Defense
9800 Savage Road, Suite 6404
Fort George G. Meade, Maryland 20755-6404

Dear Mr. Williams:

Thank you for providing Anne Arundel County, Maryland with the opportunity to offer comments regarding the Environmental Assessment Addressing the Construction and Operation of the Joint Operations Center (JOC) Facility at Fort George G. Meade, Maryland, as identified in your letter of 8 March 2012. As we noted in our comments regarding the *Environmental Impact Statement (EIS) Addressing Campus Development at Fort George G. Meade, Maryland* prepared in July 2010 and the Final EIS issued in September 2010, the County understands the significance of this effort to relocate existing assets of the National Security Agency (NSA), and now USCYBERCOM to a more modern and secure facility as well as the need to increase the number of personnel to meet and overcome the cyber and signal intelligence threats to the United States.

It is our understanding, based on your March 6, 2012 letter, that the action is to locate 1600 USCYBERCOM personnel in a proposed JOC and that this contingent will be a portion of the 6,500 person staff level for which impacts were assessed in the Final EIS noted above. While we understand and support the purpose and need for this Federal Action, Anne Arundel County is concerned about the extent of impacts that will likely be generated by that action on the area's water and other natural resources, emergency response responsibilities, surface transportation network, and other socio-economic impacts. In scoping the EA, we recommend that you address these comments through detailed analysis of the impact of the proposed Federal Action.

As this action is a tiered approach off of the FEIS noted above, our previous comments regarding impacts to the natural and built environment remain relevant and should be of assistance in framing the proposed Environmental Assessment (EA). Those comments are noted below.

I. Regarding water resources and utilities, we offer the following comments:

1. Growth at Fort Meade in terms of Base Realignment and Closure, Enhanced Use Lease, Grow the Army as well as the proposed Federal Action requested by the National Security Agency/USCYBERCOM will place substantially increased demands on the installation's waste water treatment plant (WWTP). While not reaching the design capacity of the plant, it is evident that the increased demands will likely result in greater discharge of total nitrogen and other materials into the Patuxent River. This river receives discharges from both Howard and Anne Arundel

Counties' waste water treatment plants that serve the planned growth areas in these jurisdictions. Therefore, we respectfully recommend that the Decision document for this environmental assessment clearly establish that it is the responsibility of the Department of Defense to identify how the Fort Meade WWTP will maintain the present capacity load through technological innovations and best practices.

2. Regarding stormwater, we offer the following comments: The proposed action footprint lies in the Rogue Harbor subwatershed of the Little Patuxent Watershed. Development within this watershed is subject to the Chesapeake Bay Total Maximum Daily Loadings(TMDL) allocation for Federal properties within Anne Arundel County which requires approximately 35 percent reduction in nutrient and sediment load from current (2010 base year) undeveloped levels. Further, this subwatershed is ranked by Anne Arundel County in the highest tier for needing restoration. Growth at Fort Meade as shown in the proposed action footprint will place substantial stormwater runoff increases to the receiving non-tidal stream. To address the onsite stormwater management design, Anne Arundel County recommends the implementation of the latest Maryland Department of the Environment (MDE) stormwater management regulations. These regulations dictate, at a minimum, the use of Environmental Site Design (ESD) to the Maximum Extent Possible (MEP). Quantity management and downstream mitigation requirements are typically left to the discretion of the local jurisdiction. It is important to note that even with the implementation of ESD to the MEP, the proposed development will double the Nitrogen load to the receiving streams. This is due to limitation of technology associated with stormwater practices, with ESD to the MEP achieving a 50% pollutant removal efficiency for Total Nitrogen, 60% pollutant removal efficiency for Total Phosphorous, and 90% pollutant removal efficiency for Total Suspended Solids. Further, ESD to the MEP typically stores a volume that is equivalent to 1-2 inches of rainfall over a 24-hour period. This is equivalent to the one-year storm. Higher storms are typically unmanaged and will exacerbate downstream erosion resulting in additional sediment and phosphorous transport to the Bay. Anne Arundel County recommends that Fort Meade follow the County's code for analyzing the downstream adequacy and follow the County's stormwater practice and procedure manual to assess the capacity and stability of all non tidal receiving streams to the point where the discharge is more than ten times the discharge from the site. The Anne Arundel County Stream Assessment Protocols as referenced in the County code and Stormwater Practice and Procedure Manual should be utilized to perform this assessment and can be found online *http://www.aacounty.org/DPW/Watershed/DownstreamAdequacyProtocols.cfm*.

3. Downstream restoration/mitigation is highly encouraged to negate the additional runoff and pollutant load from this proposed development and to enhance the ecosystem functions of the receiving wetlands and waterways.

4. Anne Arundel County recommends the implementation of a minimum 100-foot forested riparian buffer adjacent to Midway Branch on the east border of the proposed site (Site M), encourages the use of the most recent MDE regulations regarding sediment and erosion control, in addition to incorporation of the Final Rule for the Clean Water Act (effective February 1, 2010) into site construction requirements. The County further recommends that planning and design for the campus address the issues noted in the *Stream Corridor Assessment Report for Fort Meade*, developed by Maryland DNR in October 2005, which identified more than 107 potential environmental issues associated with the stream reaches on the installation, and finally recommends that further planning and design of the campus provide for an investigation of the off-site downstream conditions to document receiving waterway stability, including evaluation of the adequacy of infrastructure to accommodate the increased run-off associated with the proposed Federal Action's increase in impervious surface. The County requests that each of these recommendations be included in the Environmental Assessment.

II. Regarding Public Safety impacts: The Anne Arundel County Fire Department has conducted a study of impacts to response times created by growth in population and employment. The Department's findings based on their analysis clearly indicate a deterioration in needed response times, an increase in requirements to provide emergency medical services and requirements for additional mutual aid. Anne Arundel County recommends that the Decision Document identify how the Department of Defense (DoD) will address the impacts and impediments to public safety both in terms of response to incidents at NSA and on Fort Meade as well as incidents occurring outside the Federal reservation.

III. Regarding Socio-Economic Impacts: The information provided identifies possible locations for the USCYBERCOM outside the boundaries of the Federal Reservation. Location of such a large employment concentration offers positive economic benefits to the County. Location of the 1600 person contingent inside the Fort's boundaries reduces that positive impact. The County requests that the EA provide a detailed assessment of the fiscal impacts both positive and negative to the County regarding the Proposed Federal Action and that this fiscal and economic impact be considered as part of the selection criteria. Selection of locations outside the Federal Reservation was not considered in the prior Final EIS/ROD. Therefore, the County requests a detailed assessment of impact to public utilities, transportation facilities and emergency services.

IV. Regarding Transportation Impacts: At present, only the Annapolis Road (MD 175)/Ridge-Rockenbach Road (MD 713) intersection improvements are fully funded, and a segment of MD 175 (Baltimore-Washington Parkway to MD 713) has been constructed as a five-lane section by a private-sector land developer. Therefore highway capacity in the vicinity of Fort Meade is largely unchanged from the existing condition evaluated in the Final EIS/ROD. The Baltimore-Washington Parkway is owned and operated by the National Park Service which, on several occasions, has indicated their unwillingness to provide additional capacity. For these reasons, the County is very concerned about the likely impacts of this action, even though it was evaluated in the Final EIS/ROD. The improvements identified for the various phases of the campus development are not funded beyond what has been noted above. Present traffic generated by current activities at Fort Meade impact local roadway capacity, and as noted above, seriously impairs emergency response. Traffic which

will be generated by the EUL action at Fort Meade will further reduce available capacity. To date there has been little formal response or funding by the Department of Defense or the Department of the Army to mitigate or off set either the current or the anticipated impacts. Additional traffic generated by the proposed Federal Action by NSA/USCYBERCOM, even though evaluated in the Final EIS/ROD will only increase the demand leading to a longer recurring duration of network failures as the necessary improvements identified in that environmental assessment remain unfunded. The County believes that there is a significant need for additional access control point (ACP) capacity and the impact of that ACP capacity should be evaluated in the EA document. Further significant impacts to the highway network can result in public safety impacts, motorist and pedestrian safety impacts, increased congestion, and more deterioration of air quality. In the scoping letter of August 15, 2009, Anne Arundel County requested that the Campus Development EIS address the transportation issue and demonstrate how it will be mitigated. County staff reviewed the DEIS of July 2012 and offered the following comments at that time. We believe that these comments remain relevant and should be addressed in the upcoming EA.

1. Since the Transportation Network impacts assessment does not provide remedies for the conditions that are forecast to occur as a result of the Federal Action (as noted in the FEIS), Anne Arundel County requests that greater detail be provided in the EA to assist State and local planning and operating agencies in determining the extent of the impact to the network.

2. On page 4-10, the DEIS assumes a five percent mode share using transit. Anne Arundel County cautions the EA preparers that virtually no additional transit is funded and the current mode share (trips on transit) is lower than this estimate. We recommend that the Decision Document include requirements for NSA and Fort Meade, plus their contractors, to participate in a transportation demand management program to substantially reduce anticipated vehicle trip generation, especially during peak hours on the adjacent roadways.

3. On page 4-39, Figure 4.2-21 (and other locations of the DEIS document), Anne Arundel County is very concerned that the DEIS recommends improvements on locally-maintained roadways are identified without first consulting the County. It is further concerned about improvements identified in the DEIS that will likely require additional environmental (National Environmental Policy Act—NEPA) clearance such as lane increases on the Baltimore-Washington Parkway and the Patuxent Freeway (MD 32). In neither instance are NEPA studies funded, nor improvements identified in financially-constrained, air quality conforming regional transportation plans. If improvements can not be constructed due to lack of funding, or lack of concurrence from the various resource agencies, the DEIS must identify other strategies or improvements to offset the transportation-related impacts associated with the Federal Action. We recommend that language be provided in the ROD to address this concern.

4. The DEIS identified a need for travel demand reduction strategies, but did not offer recommendations, or more importantly, identify sources of funding to implement these needed strategies. Previous studies prepared by Fort Meade such as the *Fort Meade Installation-Wide Traffic and Safety Engineering Study* (Gannett/Fleming, 2008), by the Regional Growth Management Committee (2009) and by Anne Arundel County and the Maryland State Highway Administration (2006, 2009) have shown that the combined Federal Actions for BRAC/EUL will result in extremely long periods of delay on roadways around Fort Meade. Adding more traffic generated by this Federal Action for Campus Development (even in this tier) will only exacerbate this situation. Again, the County recommends that NSA and Fort Meade work collaboratively and aggressively to develop a transportation management plan and to implement that plan in advance of this increased trip generation created by these Federal Actions.

Anne Arundel County looks to NSA/USCYBERCOM to implement the requirements noted in DoD Instruction No. 4715.9 Section 6.2.4 which identifies the need to develop and maintain an intergovernmental and public consultation procedure for this proposed Federal Action. This Federal Action will clearly be an activity that will have "...significant impacts on the human environment..." as it will impact both the natural and built environment. The County understands the importance of the Federal Action proposed for NSA/USCYBERCOM JOC at Fort Meade. We also see that this action, in addition to the BRAC/EUL and other increases in personnel and households at Fort Meade have a cumulative impact on the natural and built environment that must be taken into account comprehensively. We continue to look forward to working with NSA in making the consultation process successful.

Should you have any questions, regarding our comments, please contact me or George Cardwell, Planning Administrator via e-mail at pzcard44@aacounty.org or via phone at (410) 222-7440.

Sincerely,

Robert C. Leib
Special Assistant for BRAC/Education

cc: Larry R. Tom, Planning & Zoning Officer
Robert Ray, Chief, Anne Arundel County Fire Department
Ronald Bowen, Director, Department of Public Works
Carole Sanner, Assistant Planning & Zoning Officer, OPZ
George Cardwell, Planning Administrator, OPZ

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

MDE

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

September 6, 2012

Mr. Lawrence Eastman
Chief, Planning and Environmental Services Branch
U.S. Army Corps of Engineers, Baltimore District
P.O. Box 1715
Baltimore, Maryland 21203-1715

RE: State Application Identifier: MD20120809-0595
Project: Army Cyber Commandand Control Facility to be Located at Fort Gordon, Georgia or Fort George G. Meade, MD

Dear Mr. Eastman:

Thank you for the opportunity to review the above referenced project. The document was circulated throughout the Maryland Department of the Environment (MDE) for review, and the following comments are offered for your consideration.

1. Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.

2. If the proposed project involves demolition – Any above ground or underground petroleum storage tanks that may be on site must have contents and tanks along with any contamination removed. Please contact the Oil Control Program at (410) 537-3442 for additional information.

3. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Waste Diversion and Utilization Program at (410) 537-3314 for additional information regarding recycling activities.

4. The Waste Diversion and Utilization Program should be contacted directly at (410) 537-3314 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations. The Program should also be contacted prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and federal laws and regulations.

5. Any contract specifying "lead paint abatement" must comply with Code of Maryland Regulations (COMAR) 26.16.01 - Accreditation and Training for Lead Paint Abatement Services. If a property was built before 1950 and will be used as rental housing, then compliance with COMAR 26.16.02 - Reduction of Lead Risk in Housing; and Environment Article Title 6, Subtitle 8, is required. Additional guidance regarding projects where lead paint may be encountered can be obtained by contacting the Environmental Lead Division at (410) 537-3825.

6. The proposed project may involve rehabilitation, redevelopment, revitalization, or property acquisition of commercial,

industrial property. Accordingly, MDE's Brownfields Site Assessment and Voluntary Cleanup Programs (VCP) may provide valuable assistance to you in this project. These programs involve environmental site assessment in accordance with accepted industry and financial institution standards for property transfer. For specific information about these programs and eligibility, please contact the Land Restoration Program at (410) 537-3437.

7. If boilers or other equipment capable of producing emissions are installed as a result of this project, the applicant is requested to obtain a permit to construct from MDE's Air and Radiation Management Administration for this equipment, unless the applicant determines that a permit for this equipment is not required under State regulations pertaining to "Permits, Approvals, and Registration" (COMAR 26.11.02.). A review for toxic air pollutants should be performed. Please contact the New Source Permits Division, Air and Radiation Management Administration at (410) 5373230 to learn about the State's requirements and the permitting processes for such devices.

8. If a project receives federal funding, approvals and/or permits, and will be located in a nonattainment area or maintenance area for ozone or carbon monoxide, the applicant should determine whether emissions from the project will exceed the thresholds identified in the federal rule on general conformity. If the project emissions will be greater than 25 tons per year, contact James Wilkinson, Air and Radiation Management Administration, at (410) 537-3245 for further information regarding threshold limits.

9. Water Quality Impairments: Section 303(d) of the federal Clean Water Act requires the State to identify impaired waters and establish Total Maximum Daily Loads (TMDLs) for the substances causing the impairments. A TMDL is the maximum amount of a substance that can be assimilated by a water body such that it still meets water quality standards.

   Planners should be aware of existing water quality impairments identified on Maryland's 303(d)list. The Project is situated in the Little Patuxent River watershed, identified by the 8-digit code 02131105 which is currently impaired by several substances and subject to regulations regarding the Clean Water Act.

   Planners may find a list of nearby impaired waters by entering the 8-digit basin code into an on-line database linked to the following URL:

   http://www.mde.state.md.us/programs/Water/TMDL/Integrated303dReports/Pages/303d.aspx.

   This list is updated every even calendar year. Planners should review this list periodically to help ensure that local decisions consider water quality protection and restoration needs. Briefly, the current impairments that are relevant to the Project include the following:

   Little Patuxent River (02131105)

Sediments:	Non-tidal. A TMDL has been written and submitted to EPA.
Metals:	Non-tidal. A TMDL for Cadmium is pending development.
Biological:	Non-tidal. A TMDL is pending

10. TMDLs: Development and implementation of any Plan should take into account consistency with TMDLs developed for the impaired waterbodies referenced above. Government decisions made prior to the development of a TMDL should strive to ensure no net increase of impairing substances. TMDLs are made available on an updated basis at the following web site:
    http://www.mde.state.md.us/programs/Water/TMDL/CurrentStatus/Pages/Programs/WaterPrograms/TMDL/Sumittals/index.aspx

    Special protections for high-quality waters in the local vicinity, which are identified pursuant to Maryland's anti-degradation policy;

11. Anti-degradation of Water Quality: Maryland requires special protections for waters of very high quality (Tier II waters). The policies and procedures that govern these special waters are commonly called "anti-degradation policies." This policy states that "proposed amendments to county plans or discharge permits for discharge to Tier II waters that will result in a new, or an increased, permitted annual discharge of pollutants and a potential impact to water quality, shall evaluate alternatives to eliminate or reduce discharges or impacts." These permitted annual discharges are not just traditional Point Sources, it can include all discharges such as Stormwater.

    Currently, Tier II waters are not present in the area surrounding the project.

    Planners should be aware of legal obligations related to Tier II waters described in the Code of Maryland Regulations (COMAR) 26.08.02.04 with respect to current and future land use plans. Information on Tier II waters can be obtained online at: http://www.dsd.state.md.us/comar/getfile.aspx?file=26.08.02.04.htm and policy implementation procedures are

located at http://www.dsd.state.md.us/comar/getfile.aspx?file=26.08.02.04-1.htm.

Planners should also note that since the Code of Maryland Regulations is subject to periodic updates. A list of Tier II waters pending Departmental listing in COMAR can be found, with a discussion and maps for each county, at the following website:
http://www.mde.state.md.us/programs/researchcenter/EnvironmentalData/Pages/researchcenter/data/waterqualitystandards/antidegradation/index.aspx

12. With the completion of the Chesapeake Bay TMDL, the Chesapeake Bay Program Office (CBPO) will be able to provide loading data at a more refined scale than in the past. MDE will be able to use the CBPO data to estimate pollution allocations at the jurisdictional level (which will include Federal Facilities) to provide allocations to the Facilities. These allocations, both Wasteload (WLA) and Load Allocation (LA) could call for a reduction in both Point Sources and Nonpoint Sources. Facilities should be aware of reductions and associated implementation required by WIPs or FIPs.

13. The project should consider all Maryland Stormwater ManagementControls. Site Designs should consider all Environmental Site Design to the Maximum Extent Practicable and "Green Building" Alternatives. Designs that reduce impervious surface and BMPs that increase runoff infiltration are highly encouraged.

Again, thank you for giving MDE the opportunity to review this project. If you have any questions or need additional information, please feel free to call me at (410) 537-4120.

Sincerely,

Amanda R. Degen

Amanda R. Degen
MDE Acting Clearinghouse Coordinator
Office of Communications

cc: Linda C. Janey, State Clearinghouse

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
10 SOUTH HOWARD STREET
BALTIMORE, MARYLAND 21201

26 September 2013

Dear Interested Party:

The U.S. Army Cyber (ARCYBER) Command has released the enclosed Notice of Availability (NOA) (Enclosure 1) for a draft final Environmental Assessment (EA) that evaluates potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. The draft final EA includes an additional alternative which was not previously coordinated with your agency. This seventh alternative, located within the cantonment area at Fort Gordon, includes construction of a new facility along 19th Street (Enclosure 2).

Please refer to the attached NOA for instructions on obtaining copies of the draft final EA and on submitting comments.

Sincerely,

Enclosures

Lawrence D. Eastman
Deputy Chief, Planning and Environmental
Services Branch

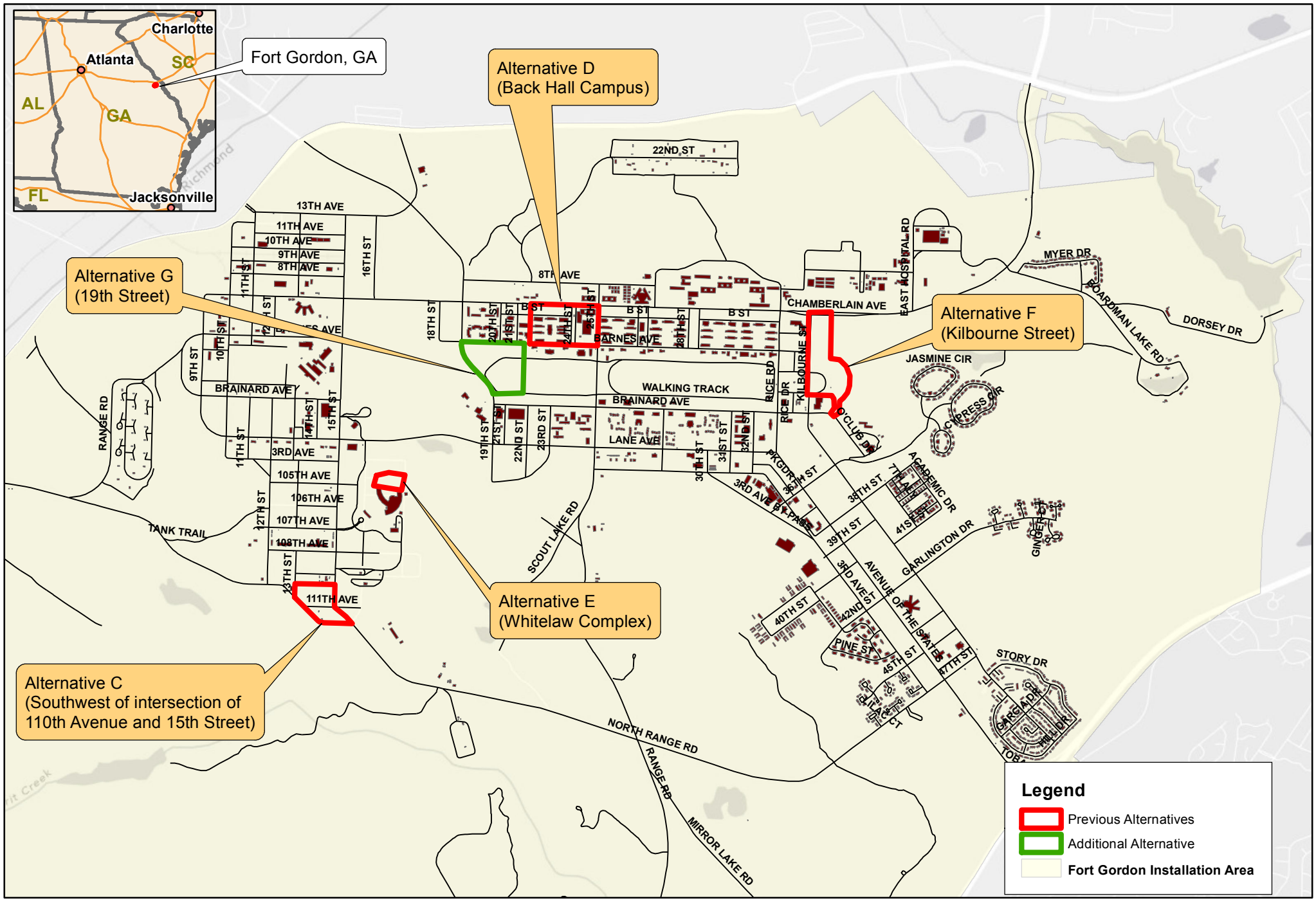
CF: See Mailing Lists

Notice of Availability
Draft Final Environmental Assessment (EA)
and Draft Finding of No Significant Impact (FNSI)
U.S. Army Cyber Command and Control Facility
Fort George G. Meade, MD / Fort Gordon, GA

U.S. Army Cyber Command / 2nd Army (ARCYBER) proposes to establish and operate a Command and Control Facility at Fort George G. Meade, Maryland or Fort Gordon, Georgia. The purpose of the Proposed Action is to construct a facility or renovate existing buildings to accommodate a workforce comprised of active duty military, government civilian and contract personnel at one of seven alternative site locations at either Fort Meade or Fort Gordon. The results, as found in the EA, show that the Proposed Action would not have a significant adverse impact on the environment, though the EA does not indicate a Preferred Alternative. At the conclusion of the public comment period, it is anticipated that a FNSI would be appropriate and would be signed for the Proposed Action. An Environmental Impact Statement therefore, is not necessary to implement the Proposed Action.

Copies of the draft EA and draft FNSI are available online at www.ftmeade.army.mil by clicking on the 'Environmental Programs' tab under 'Public Notices' and http://www.gordon.army.mil/dpw/ENV/nepa.htm. The documents can also be found at the following locations: Medal of Honor Memorial Library on Fort Meade; West County Area Library, 1325 Annapolis Road, Odenton, MD; Fort Gordon Public Affairs Office (Building 29801); Woodworth Library (Building 33500) on Fort Gordon; and Richmond County Main (HQ) Public Library, 823 Telfair Street, Augusta, Georgia. Additionally, copies can be obtained by contacting Suzanne Teague, Directorate of Public Works, Environmental Division, 4215 Roberts Avenue, STE 5115, Fort Meade, Maryland 20755 or by phone at 301-677-9185 or by email at suzanne.m.teague.civ@mail.mil or Robert Drumm, Directorate of Public Works, Environmental Division, 527 15th Street, Building 14500, Fort Gordon, Georgia 30905 or by phone at 706-791-6374 or by email at robert.l.drumm6.civ@mail.mil.

Comments on the draft final EA and draft FNSI may be submitted to Ms. Teague or Mr. Drumm no later than 30 days from the publication of this notice.



Enclosure 2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared July 23, 2013

Mailing List
Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia

Federal and State Agencies

EPA Region 4
Mr. Heinz J. Mueller, Chief
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

Georgia Historic Preservation Division
Attn: Dr. David Crass
254 Washington Street, SW
Ground Level
Atlanta, GA 30334-9007

US Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

Mr. David M. Jennings
Environmental Protection Specialist
Installation Management Command, Atlantic Region
IMAT-PWD-E
705 Washington Boulevard
Fort Eustis, VA 23604-5515

Georgia Environmental Protection Division
Northeast District
Attn: Mr. Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Attn: Ms. Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

Georgia Dept. of Natural Resources
Historic Preservation Division
Attn: Ms. Elizabeth Shirk
254 Washington Street, SW; Ground Level;
Atlanta, GA 30334

Mr. Jon A. West
Georgia Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329

Ms. Amber Phillips
Georgia Dept of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308

Regional and Local Offices

Mr. Ron Milligan
Brier Creek Soil and Water Conservation District
2531 Perkins Green Fork Road
Perkins, GA 30822-5337

Mr. Robert Amos
Columbia County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

Mr. Robert Amos
McDuffie County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

Mr. George Patty, Director
Augusta-Richmond
Planning and Development Department
525 Telfair Street
Augusta, GA 30901

Ms. Lillian Easterlin, Executive Director
Jefferson County Chamber of Commerce
P.O. Box 630
302 East Broad Street
Louisville, GA 30434

Ms. Nayna Mistry
Department of Planning
Columbia County Government Center
630 Ronald Reagan Drive
Building A, West Wing
P.O. Box 498
Evans, GA 30809

Ms. Gail Newsome
McDuffie County Planning Commission
City/County Government Complex
210 Railroad Street
Thomson, GA 30824

Mailing List
Environmental Assessment
Army Cyber Command and Control Facility
Fort George G. Meade

State and Federal Agencies

Ms. Lori Byrne
Maryland Dept. of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

Ms. Linda C. Janey
Maryland State Clearinghouse
Maryland Office of Planning, Suite 1101
301 West Preston Street
Baltimore, MD 21201-2365

Ms. Brigid E. Kenney
Office of the Secretary
Maryland Department of Environment
1800 Washington Blvd.
Baltimore, MD 21230

Ms. Genevieve LaRouche
U.S. Dept. of the Interior Fish & Wildlife Services
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Mr. William Arguto
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103
Mail Code EA30

Maryland Dept. of Housing & Community
Development Maryland Historical Trust
Division of Historical and Cultural Programs
ATTN: Ms. Elizabeth J. Cole
100 Community Place
Crownsville, MD 21032-2023

State of Maryland Dept. of Agriculture
ATTN: Ms. Joe Oberg
Public Information Officer
50 Harry S. Truman Parkway
Annapolis, Maryland 21401

Maryland Department of Planning
ATTN: Mr. Bob Rosenbush, Planner
301 West Preston Street, Suite 1101
Baltimore, MD 21201

Maryland Dept of Transportation
State Highway Administration
ATTN: Ms. Kathryn Robbins
707 North Calvert Street
Mail Stop C303
Baltimore, Maryland 21202

Regional and Local Offices

Ms. Ginger Ellis
Anne Arundel County Maryland
Office of Environmental & Cultural Resources
2664 Riva Rd
Annapolis, MD 21401

Mr. Joseph A. Haamid
Resource Conservationist
Anne Arundel Soil Conservation District
Heritage Office Center
2662 Riva Road, Suite 150, MS #7001
Annapolis, MD 21401-7377

Mr. George G. Cardwell
Anne Arundel County
Office of Planning and Zoning
Heritage Office Complex
2664 Riva Rd, MS 6403
Annapolis, MD 21401

Mr. Jean Friedberg
Fort Meade RGMC
6751 Columbia Gateway Drive
Suite 500
Columbia, MD 21046

October 2, 2013

Mr. Lawrence Eastman
Deputy Chief, Planning and Environmental Services Branch
Department of the Army, Baltimore District, Corps of Engineers
10 S. Howard Street
Baltimore, MD 21201

STATE CLEARINGHOUSE REVIEW PROCESS

State Application Identifier: **MD20131001-0718**
Reviewer Comments Due By: October 29, 2013
Project Description: Draft Final Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI): Army Cyber Command and Control Facility to be Located at Fort Gordon, Georgia or Fort George G. Meade, MD Includes the Seventh Alternative (**Ref: MD20120809-0585**)
Project Location: Anne Arundel and State of Georgia
Clearinghouse Contact: Sophia Richardson

Dear Mr. Eastman:

Thank you for submitting your project for intergovernmental review. Participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps ensure project consistency with plans, programs, and objectives of State agencies and local governments. MIRC enhances opportunities for approval and/or funding and minimizes delays by resolving issues before project implementation.

The following agencies and/or jurisdictions have been forwarded a copy of your project for their review: the Maryland Department(s) of Natural Resources, Transportation, the Environment; the Maryland Office(s) of Maryland Military Department; the County(ies) of Anne Arundel; and the Maryland Department of Planning; including Maryland Historical Trust. They have been requested to contact your agency directly by **October 28, 2013** with any comments or concerns and to provide a copy of those comments to the State Clearinghouse for Intergovernmental Assistance. Please be assured that after **October 28, 2013** all MIRC requirements will have been met in accordance with Code of Maryland Regulations (COMAR 34.02.01.04-.06). The project has been assigned a unique State Application Identifier that should be used on all documents and correspondence.

If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at srichardson@mdp.state.md.us. Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey, J.D., Assistant Secretary

P.S. *Great News!! Your project may be eligible to be "FastTracked" through the State permitting processes. For more information, go to: http://easy.maryland.gov/wordpress/fasttrack/ .*

LCJ:SR
cc: Greg Golden – DNR Melinda Gretsinger – MDOT Amanda Degen – MDE Lawrence Leone – MILT Debra Falconer - ANAR
Bihui Xu - MDPI-T Peter Conrad - MDPL Beth Cole – MHT *13-0718_NDC.NEW.doc*

ANNE ARUNDEL COUNTY
M A R Y L A N D
Laura Neuman, County Executive

Office of Planning and Zoning
Transportation Division
P.O. Box 6675
2664 Riva Road – 4th Floor
Annapolis, Maryland 21401

October 24, 2013

Ms. Suzanne Teague
Directorate of Public Works, Environmental Division
4215 Roberts Avenue, STE 5115
Fort George G. Meade, Maryland 20755

RE: U.S. Army Cyber (ARCYBER), Notice of Availability (NOA) Evaluation of Impacts Associated with ARCYBER Command and Control Facility Located at Either Fort George G. Meade, or Fort Gordon, Comments

Dear Ms. Teague:

Anne Arundel County, Maryland's Office of Planning & Zoning has reviewed the information provided with the NOA with cover letter dated 26 September 2013 for ARCYBER Command and Control Facility. Our understanding is that the NOA reflects evaluation of impacts associated with an additional location at Fort Gordon, Georgia (Alternative F).

Given that understanding, Anne Arundel County continues to stand by previous comments provided regarding potential impacts associated with sites located at Fort George G. Meade, Maryland, which is located within Anne Arundel County. Those comments are enclosed with this letter response to the NOA.

Should you have any questions or concerns regarding the County's comments, please contact me via phone at (410) 222-7440, or via email at pzcard44@aacounty.org .

Sincerely,

George G. Cardwell, AICP
Planning Administrator

Enclosure

cc: Karen L. Cook, Esq., Chief Administrative Officer
Ginger Ellis, Administrator, Water Resources Bureau, DPW
Jean Friedberg, RGMC
Albert Kirchner, BRAC Liaison, EDC
Carole Sanner, Assistant Planning & Zoning Officer
Larry R. Tom, Planning & Zoning Officer

ANNE ARUNDEL COUNTY
MARYLAND

County Executive John R. Leopold
P.O. Box 2700, Annapolis , MD 21404

March 30, 2012

Jeffrey Williams
Environmental and Safety Services
Department of Defense
9800 Savage Road, Suite 6404
Fort George G. Meade, Maryland 20755-6404

Dear Mr. Williams:

Thank you for providing Anne Arundel County, Maryland with the opportunity to offer comments regarding the Environmental Assessment Addressing the Construction and Operation of the Joint Operations Center (JOC) Facility at Fort George G. Meade, Maryland, as identified in your letter of 8 March 2012. As we noted in our comments regarding the *Environmental Impact Statement (EIS) Addressing Campus Development at Fort George G. Meade, Maryland* prepared in July 2010 and the Final EIS issued in September 2010, the County understands the significance of this effort to relocate existing assets of the National Security Agency (NSA), and now USCYBERCOM to a more modern and secure facility as well as the need to increase the number of personnel to meet and overcome the cyber and signal intelligence threats to the United States.

It is our understanding, based on your March 6, 2012 letter, that the action is to locate 1600 USCYBERCOM personnel in a proposed JOC and that this contingent will be a portion of the 6,500 person staff level for which impacts were assessed in the Final EIS noted above. While we understand and support the purpose and need for this Federal Action, Anne Arundel County is concerned about the extent of impacts that will likely be generated by that action on the area's water and other natural resources, emergency response responsibilities, surface transportation network, and other socio-economic impacts. In scoping the EA, we recommend that you address these comments through detailed analysis of the impact of the proposed Federal Action.

As this action is a tiered approach off of the FEIS noted above, our previous comments regarding impacts to the natural and built environment remain relevant and should be of assistance in framing the proposed Environmental Assessment (EA). Those comments are noted below.

I. Regarding water resources and utilities, we offer the following comments:

1. Growth at Fort Meade in terms of Base Realignment and Closure, Enhanced Use Lease, Grow the Army as well as the proposed Federal Action requested by the National Security Agency/USCYBERCOM will place substantially increased demands on the installation's waste water treatment plant (WWTP). While not reaching the design capacity of the plant, it is evident that the increased demands will likely result in greater discharge of total nitrogen and other materials into the Patuxent River. This river receives discharges from both Howard and Anne Arundel

Counties' waste water treatment plants that serve the planned growth areas in these jurisdictions. Therefore, we respectfully recommend that the Decision document for this environmental assessment clearly establish that it is the responsibility of the Department of Defense to identify how the Fort Meade WWTP will maintain the present capacity load through technological innovations and best practices.

2. Regarding stormwater, we offer the following comments: The proposed action footprint lies in the Rogue Harbor subwatershed of the Little Patuxent Watershed. Development within this watershed is subject to the Chesapeake Bay Total Maximum Daily Loadings(TMDL) allocation for Federal properties within Anne Arundel County which requires approximately 35 percent reduction in nutrient and sediment load from current (2010 base year) undeveloped levels. Further, this subwatershed is ranked by Anne Arundel County in the highest tier for needing restoration. Growth at Fort Meade as shown in the proposed action footprint will place substantial stormwater runoff increases to the receiving non-tidal stream. To address the onsite stormwater management design, Anne Arundel County recommends the implementation of the latest Maryland Department of the Environment (MDE) stormwater management regulations. These regulations dictate, at a minimum, the use of Environmental Site Design (ESD) to the Maximum Extent Possible (MEP). Quantity management and downstream mitigation requirements are typically left to the discretion of the local jurisdiction. It is important to note that even with the implementation of ESD to the MEP, the proposed development will double the Nitrogen load to the receiving streams. This is due to limitation of technology associated with stormwater practices, with ESD to the MEP achieving a 50% pollutant removal efficiency for Total Nitrogen, 60% pollutant removal efficiency for Total Phosphorous, and 90% pollutant removal efficiency for Total Suspended Solids. Further, ESD to the MEP typically stores a volume that is equivalent to 1-2 inches of rainfall over a 24-hour period. This is equivalent to the one-year storm. Higher storms are typically unmanaged and will exacerbate downstream erosion resulting in additional sediment and phosphorous transport to the Bay. Anne Arundel County recommends that Fort Meade follow the County's code for analyzing the downstream adequacy and follow the County's stormwater practice and procedure manual to assess the capacity and stability of all non tidal receiving streams to the point where the discharge is more than ten times the discharge from the site. The Anne Arundel County Stream Assessment Protocols as referenced in the County code and Stormwater Practice and Procedure Manual should be utilized to perform this assessment and can be found online *http://www.aacounty.org/DPW/Watershed/DownstreamAdequacyProtocols.cfm*.

3. Downstream restoration/mitigation is highly encouraged to negate the additional runoff and pollutant load from this proposed development and to enhance the ecosystem functions of the receiving wetlands and waterways.

4. Anne Arundel County recommends the implementation of a minimum 100-foot forested riparian buffer adjacent to Midway Branch on the east border of the proposed site (Site M), encourages the use of the most recent MDE regulations regarding sediment and erosion control, in addition to incorporation of the Final Rule for the Clean Water Act (effective February 1, 2010) into site construction requirements. The County further recommends that planning and design for the campus address the issues noted in the *Stream Corridor Assessment Report for Fort Meade*, developed by Maryland DNR in October 2005, which identified more than 107 potential environmental issues associated with the stream reaches on the installation, and finally recommends that further planning and design of the campus provide for an investigation of the off-site downstream conditions to document receiving waterway stability, including evaluation of the adequacy of infrastructure to accommodate the increased run-off associated with the proposed Federal Action's increase in impervious surface. The County requests that each of these recommendations be included in the Environmental Assessment.

II. Regarding Public Safety impacts: The Anne Arundel County Fire Department has conducted a study of impacts to response times created by growth in population and employment. The Department's findings based on their analysis clearly indicate a deterioration in needed response times, an increase in requirements to provide emergency medical services and requirements for additional mutual aid. Anne Arundel County recommends that the Decision Document identify how the Department of Defense (DoD) will address the impacts and impediments to public safety both in terms of response to incidents at NSA and on Fort Meade as well as incidents occurring outside the Federal reservation.

III. Regarding Socio-Economic Impacts: The information provided identifies possible locations for the USCYBERCOM outside the boundaries of the Federal Reservation. Location of such a large employment concentration offers positive economic benefits to the County. Location of the 1600 person contingent inside the Fort's boundaries reduces that positive impact. The County requests that the EA provide a detailed assessment of the fiscal impacts both positive and negative to the County regarding the Proposed Federal Action and that this fiscal and economic impact be considered as part of the selection criteria. Selection of locations outside the Federal Reservation was not considered in the prior Final EIS/ROD. Therefore, the County requests a detailed assessment of impact to public utilities, transportation facilities and emergency services.

IV. Regarding Transportation Impacts: At present, only the Annapolis Road (MD 175)/Ridge-Rockenbach Road (MD 713) intersection improvements are fully funded, and a segment of MD 175 (Baltimore-Washington Parkway to MD 713) has been constructed as a five-lane section by a private-sector land developer. Therefore highway capacity in the vicinity of Fort Meade is largely unchanged from the existing condition evaluated in the Final EIS/ROD. The Baltimore-Washington Parkway is owned and operated by the National Park Service which, on several occasions, has indicated their unwillingness to provide additional capacity. For these reasons, the County is very concerned about the likely impacts of this action, even though it was evaluated in the Final EIS/ROD. The improvements identified for the various phases of the campus development are not funded beyond what has been noted above. Present traffic generated by current activities at Fort Meade impact local roadway capacity, and as noted above, seriously impairs emergency response. Traffic which

will be generated by the EUL action at Fort Meade will further reduce available capacity. To date there has been little formal response or funding by the Department of Defense or the Department of the Army to mitigate or off set either the current or the anticipated impacts. Additional traffic generated by the proposed Federal Action by NSA/USCYBERCOM, even though evaluated in the Final EIS/ROD will only increase the demand leading to a longer recurring duration of network failures as the necessary improvements identified in that environmental assessment remain unfunded. The County believes that there is a significant need for additional access control point (ACP) capacity and the impact of that ACP capacity should be evaluated in the EA document. Further significant impacts to the highway network can result in public safety impacts, motorist and pedestrian safety impacts, increased congestion, and more deterioration of air quality. In the scoping letter of August 15, 2009, Anne Arundel County requested that the Campus Development EIS address the transportation issue and demonstrate how it will be mitigated. County staff reviewed the DEIS of July 2012 and offered the following comments at that time. We believe that these comments remain relevant and should be addressed in the upcoming EA.

1. Since the Transportation Network impacts assessment does not provide remedies for the conditions that are forecast to occur as a result of the Federal Action (as noted in the FEIS), Anne Arundel County requests that greater detail be provided in the EA to assist State and local planning and operating agencies in determining the extent of the impact to the network.

2. On page 4-10, the DEIS assumes a five percent mode share using transit. Anne Arundel County cautions the EA preparers that virtually no additional transit is funded and the current mode share (trips on transit) is lower than this estimate. We recommend that the Decision Document include requirements for NSA and Fort Meade, plus their contractors, to participate in a transportation demand management program to substantially reduce anticipated vehicle trip generation, especially during peak hours on the adjacent roadways.

3. On page 4-39, Figure 4.2-21 (and other locations of the DEIS document), Anne Arundel County is very concerned that the DEIS recommends improvements on locally-maintained roadways are identified without first consulting the County. It is further concerned about improvements identified in the DEIS that will likely require additional environmental (National Environmental Policy Act—NEPA) clearance such as lane increases on the Baltimore-Washington Parkway and the Patuxent Freeway (MD 32). In neither instance are NEPA studies funded, nor improvements identified in financially-constrained, air quality conforming regional transportation plans. If improvements can not be constructed due to lack of funding, or lack of concurrence from the various resource agencies, the DEIS must identify other strategies or improvements to offset the transportation-related impacts associated with the Federal Action. We recommend that language be provided in the ROD to address this concern.

4. The DEIS identified a need for travel demand reduction strategies, but did not offer recommendations, or more importantly, identify sources of funding to implement these needed strategies. Previous studies prepared by Fort Meade such as the *Fort Meade Installation-Wide Traffic and Safety Engineering Study* (Gannett/Fleming, 2008), by the Regional Growth Management Committee (2009) and by Anne Arundel County and the Maryland State Highway Administration (2006, 2009) have shown that the combined Federal Actions for BRAC/EUL will result in extremely long periods of delay on roadways around Fort Meade. Adding more traffic generated by this Federal Action for Campus Development (even in this tier) will only exacerbate this situation. Again, the County recommends that NSA and Fort Meade work collaboratively and aggressively to develop a transportation management plan and to implement that plan in advance of this increased trip generation created by these Federal Actions.

Anne Arundel County looks to NSA/USCYBERCOM to implement the requirements noted in DoD Instruction No. 4715.9 Section 6.2.4 which identifies the need to develop and maintain an intergovernmental and public consultation procedure for this proposed Federal Action. This Federal Action will clearly be an activity that will have "...significant impacts on the human environment..." as it will impact both the natural and built environment. The County understands the importance of the Federal Action proposed for NSA/USCYBERCOM JOC at Fort Meade. We also see that this action, in addition to the BRAC/EUL and other increases in personnel and households at Fort Meade have a cumulative impact on the natural and built environment that must be taken into account comprehensively. We continue to look forward to working with NSA in making the consultation process successful.

Should you have any questions, regarding our comments, please contact me or George Cardwell, Planning Administrator via e-mail at pzcard44@aacounty.org or via phone at (410) 222-7440.

Sincerely,

Robert C. Leib
Special Assistant for BRAC/Education

cc: Larry R. Tom, Planning & Zoning Officer
Robert Ray, Chief, Anne Arundel County Fire Department
Ronald Bowen, Director, Department of Public Works
Carole Sanner, Assistant Planning & Zoning Officer, OPZ
George Cardwell, Planning Administrator, OPZ

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
10 SOUTH HOWARD STREET
BALTIMORE, MARYLAND 21201

26 September 2013

Dear Interested Party:

The U.S. Army Cyber (ARCYBER) Command has released the enclosed Notice of Availability (NOA) (Enclosure 1) for a draft final Environmental Assessment (EA) that evaluates potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. The draft final EA includes an additional alternative which was not previously coordinated with your agency. This seventh alternative, located within the cantonment area at Fort Gordon, includes construction of a new facility along 19th Street (Enclosure 2).

Please refer to the attached NOA for instructions on obtaining copies of the draft final EA and on submitting comments.

Sincerely,

Lawrence D. Eastman
Deputy Chief, Planning and Environmental
Services Branch

Enclosures

CF: See Mailing Lists

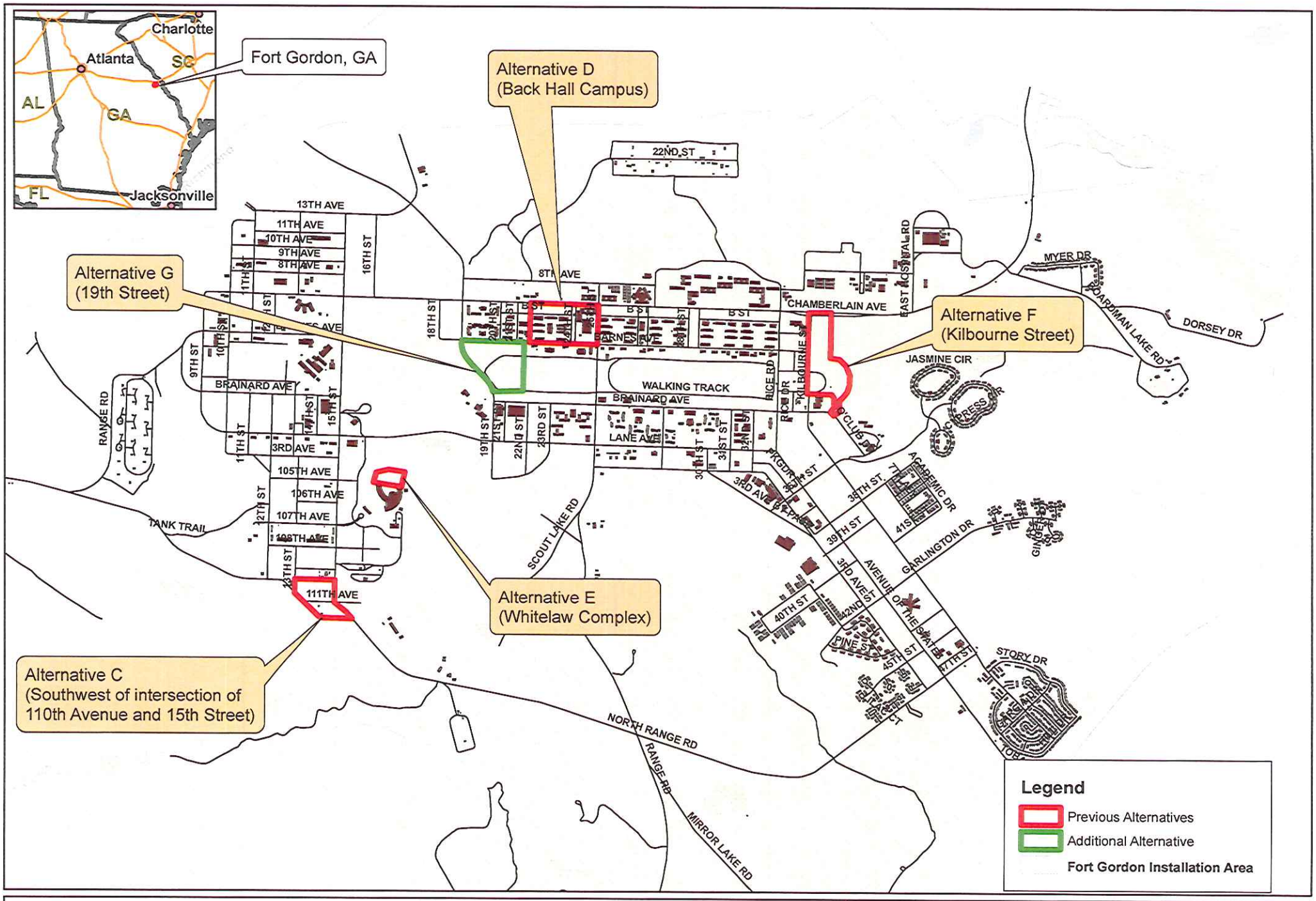
RECEIVED
SEP 30 2013
TRANSPORTATION

Notice of Availability
Draft Final Environmental Assessment (EA)
and Draft Finding of No Significant Impact (FNSI)
U.S. Army Cyber Command and Control Facility
Fort George G. Meade, MD / Fort Gordon, GA

U.S. Army Cyber Command / 2nd Army (ARCYBER) proposes to establish and operate a Command and Control Facility at Fort George G. Meade, Maryland or Fort Gordon, Georgia. The purpose of the Proposed Action is to construct a facility or renovate existing buildings to accommodate a workforce comprised of active duty military, government civilian and contract personnel at one of seven alternative site locations at either Fort Meade or Fort Gordon. The results, as found in the EA, show that the Proposed Action would not have a significant adverse impact on the environment, though the EA does not indicate a Preferred Alternative. At the conclusion of the public comment period, it is anticipated that a FNSI would be appropriate and would be signed for the Proposed Action. An Environmental Impact Statement therefore, is not necessary to implement the Proposed Action.

Copies of the draft EA and draft FNSI are available online at www.ftmeade.army.mil by clicking on the 'Environmental Programs' tab under 'Public Notices' and http://www.gordon.army.mil/dpw/ENV/nepa.htm. The documents can also be found at the following locations: Medal of Honor Memorial Library on Fort Meade; West County Area Library, 1325 Annapolis Road, Odenton, MD; Fort Gordon Public Affairs Office (Building 29801); Woodworth Library (Building 33500) on Fort Gordon; and Richmond County Main (HQ) Public Library, 823 Telfair Street, Augusta, Georgia. Additionally, copies can be obtained by contacting Suzanne Teague, Directorate of Public Works, Environmental Division, 4215 Roberts Avenue, STE 5115, Fort Meade, Maryland 20755 or by phone at 301-677-9185 or by email at suzanne.m.teague.civ@mail.mil or Robert Drumm, Directorate of Public Works, Environmental Division, 527 15th Street, Building 14500, Fort Gordon, Georgia 30905 or by phone at 706-791-6374 or by email at robert.l.drumm6.civ@mail.mil.

Comments on the draft final EA and draft FNSI may be submitted to Ms. Teague or Mr. Drumm no later than 30 days from the publication of this notice.



Enclosure 2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

Prepared July 23, 2013

THE BALTIMORE SUN
www.baltimoresun.com

COPY

Thursday September 26 2013

WE HEREBY CERTIFY, that the annexed advertisement of Order No 949849

Us Army Corps Of Engineers
10 S Howard St
Baltimore, MD 21201-2526

was published in "THE BALTIMORE SUN" a daily newspaper printed and published in the City of Baltimore on Thursday September 26 2013

The Baltimore Sun Company

By Allison Thompson

Subscibed and sworn to before me this 26 day of Sept 2013,

By

Michele Elaine

Notary Public
My commission expires 10/5/15
7123

MICHELE ELAINE NOTARY PUBLIC BALTIMORE COUNTY

COPY

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LEGAL NOTICES

IN THE CIRCUIT COURT FOR ANNE ARUNDEL COUNTY
MARK H. WITTSTADT, ET.AL., SUBSTITUTE TRUSTEES
Versus
CHARLES WOODBERRY, JR., DEFENDANT
No. C-13-177868
NOTICE

Notice is hereby issued this 19th day of September, 2013, That the sale of the property in the proceedings mentioned, made and reported by Gerard Wm. Wittstadt, Jr., Substitute Trustee(s). BE RATIFIED AND CONFIRMED, unless cause to the contrary thereof be shown on or before the 21st day of October, 2013 next; Provided, a copy of this Notice be inserted in some newspaper published in Anne Arundel County, once in each of three successive weeks before the 21st day of October, 2013 next. The report states that the amount of sale of the property at 252 WOODOAK COURT, 2, GLEN BURNIE, MD 21061 to be $127,000.00.

ROBERT P. DUCKWORTH, Clerk
True Copy Test
ROBERT P. DUCKWORTH, Clerk
39-U Sept. 26 - Oct. 3, 10 949859

Notice of Availability Draft Final Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) U.S. Army Cyber Command and Control Facility Fort George G. Meade, MD / Fort Gordon, GA

U.S. Army Cyber Command / 2nd Army (ARCYBER) proposes to establish and operate a Command and Control Facility at Fort George G. Meade, Maryland or Fort Gordon, Georgia. The purpose of the Proposed Action is to construct a facility or renovate existing buildings to accommodate a workforce comprised of active duty military, government civilian and contract personnel at one of seven alternative site locations at either Fort Meade or Fort Gordon. The results, as found in the EA, show that the Proposed Action would not have a significant adverse impact on the environment, though the EA does not indicate a Preferred Alternative. At the conclusion of the public comment period, it is anticipated that a FNSI would be appropriate and would be signed for the Proposed Action. An Environmental Impact Statement therefore, is not necessary to implement the Proposed Action.

Copies of the draft EA and draft FNSI are available online at www.ftmeade.army.mil by clicking on the 'Environmental Programs' tab under 'Public Notices' and http://www.gordon.army.mil/dpw/ENV/nepa.htm. The documents can also be found at the following locations: Medal of Honor Memorial Library on Fort Meade; West County Area Library, 1325 Annapolis Road, Odenton, MD; Fort Gordon Public Affairs Office (Building 29801); Woodworth Library (Building 33500) on Fort Gordon; and Richmond County Main (HQ) Public Library, 823 Telfair Street, Augusta, Georgia. Additionally, copies can be obtained by contacting Suzanne Teague, Directorate of Public Works, Environmental Division, 4215 Roberts Avenue, STE 5115, Fort Meade, Maryland 20755 or by phone at 301-677-9185 or by email at suzanne.m.teague.civ@mail.mil or Robert Drumm, Directorate of Public Works, Environmental Division, 527 15th Street, Building 14500, Fort Gordon, Georgia 30905 or by phone at 706-791-6374 or by email at robert.l.drumm6.civ@mail.mil.

Comments on the draft final EA and draft FNSI may be submitted to Ms. Teague or Mr. Drumm no later than 30 days from the publication of this notice.

STATE OF CONNECTICUT
SUPERIOR COURT
JUVENILE MATTERS
ORDER OF NOTICE

NOTICE TO: Julian Morales; Father of a male child born on 8/1/12, to Kadisha M. in Waterbury, CT

of parts unknown

A petition has been filed seeking:

Commitment of minor child (ren) of the above named or vesting of custody and care of said child(ren) of the above named in a lawful, private or public agency or a suitable and worthy person.

The petition whereby the court's decision can affect your parental rights, if any, regarding minor child(ren) will be heard on: 10-9-13 at 10:00 a.m. at SCJM 7 Kendrick Ave. 3 rd Fl, Waterbury, CT 06702.

Therefore, ORDERED, that notice of the hearing of this petition be given by publishing this Order of Notice once, immediately upon receipt, in the: Baltimore Sun, a newspaper having a circulation in the town/city of Baltimore

Honorable Cara Eschuk
Judge

Joseph Inman, Admin Clerk
Date signed 9-9-13

RIGHT TO COUNSEL: Upon proof of inability to pay for a lawyer, the court will provide one for you at court expense. Any such request should be made immediately at the court office where your Hearing is to be held.

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THE BALTIMORE SUN
baltimoresun.com

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$ PRICED TO SELL

ARBUTUS, MD Two side-by-side cemetery plots with crypts, Metal Ridge Memorial Park, Garden of Remembrance. Transfer fee paid, asking $4,250. Call 337-280-0780.

BALTIMORE For sale: 2 burial plots side by side. Parkwood Cemetery. Valued at $8,000 will sell for $5,000 410-838-0089. Leave message if no answer.

BALTIMORE For sale, two burial plots, side-by-side, Parkwood Cemetery. Valued at $7,000 will sell for $5,500 Call 717-235-7035, leave message.

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Call Bill at 410-227-8614

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OFFICE OF

The Capital

Published by

Capital Gazette Communications, Inc.

HOLDER OF CONTRACT FOR ANNE ARUNDEL COUNTY ADVERTISING

CERTIFICATE OF PUBLICATION

Annapolis, MD, September 26, 20 13

We hereby certify that the annexed

EA & FNSI ARCYBER

was published in The Capital, a newspaper published in the City of

Annapolis, Anne Arundel County, MD

once a week for One successive weeks

before the _____ day of _____, 20_____.

The insertions being made the 26th day of

September, 20 13.

Capital Gazette Communications, Inc.

By Lynne Scarborough

572067

COPY

Capital Gazette Communications

Wed 09/25/13 15:56:39

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Phone: *410-268-5000* **Fax:** *410-280-5974* **Size:** 0.000 X 0.000 THENLEY

NOTICE OF AVAILABILITY

Draft Final Environmental Assessment (EA)
and Draft Finding of No Significant Impact (FNSI)
U.S. Army Cyber Command and Control Facility
Fort George G. Meade, MD / Fort Gordon, GA

U.S. Army Cyber Command / 2nd Army (ARCYBER) proposes to establish and operate a Command and Control Facility at Fort George G. Meade, Maryland or Fort Gordon, Georgia. The purpose of the Proposed Action is to construct a facility or renovate existing buildings to accommodate a workforce comprised of active duty military, government civilian and contract personnel at one of seven alternative site locations at either Fort Meade or Fort Gordon. The results, as found in the EA, show that the Proposed Action would not have a significant adverse impact on the environment, though the EA does not indicate a Preferred Alternative. At the conclusion of the public comment period, it is anticipated that a FNSI would be appropriate and would be signed for the Proposed Action. An Environmental Impact Statement therefore, is not necessary to implement the Proposed Action.

Copies of the draft EA and draft FNSI are available online at www.ftmeade.army.mil by clicking on the 'Environmental Programs' tab under 'Public Notices' and http://www.gordon.army.mil/dpw/ENV/nepa.htm. The documents can also be found at the following locations: Medal of Honor Memorial Library on Fort Meade; West County Area Library, 1325 Annapolis Road, Odenton, MD; Fort Gordon Public Affairs Office (Building 29801); Woodworth Library (Building 33500) on Fort Gordon; and Richmond County Main (HQ) Public Library, 823 Telfair Street, Augusta, Georgia. Additionally, copies can be obtained by contacting Suzanne Teague, Directorate of Public Works, Environmental Division, 4215 Roberts Avenue, STE 5115, Fort Meade, Maryland 20755 or by phone at 301-677-9185 or by email at suzanne.m.teague.civ@mail.mil or Robert Drumm, Directorate of Public Works, Environmental Division, 527 15th Street, Building 14500, Fort Gordon, Georgia 30905 or by phone at 706-791-6374 or by email at robert.l.drumm6.civ@mail.mil.

Comments on the draft final EA and draft FNSI may be submitted to Ms. Teague or Mr. Drumm no later than 30 days from the publication of this notice.

572067 9/26

APPENDIX C

COORDINATION
REGARDING
FORT GORDON

US Army Corps
of Engineers
Baltimore District

Public Notice

Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia
Fort George G. Meade, Maryland

All Interested Parties: On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel.

The three alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon include: 1) construct a new facility at Fort Gordon in a 16-acre site southwest of the intersection of 110th Avenue and 15th Street; 2) renovate several buildings and construct additional space if needed within Back Hall Campus between 22nd to 25th and Chamberlain to Barnes; and 3) construct a wing on Whitelaw Hall as part of the planned Phase 2 development for the entire ARCYBER Command. All components are proposed within the cantonment area of the installation (Enclosure 1). Interim stationing would have the personnel currently located at Fort Belvoir and Fort Meade relocated to several buildings within Back Hall Campus at Fort Gordon.

The two alternatives to be evaluated in the EA for locating the command and control facility at Fort Meade include: 1) construction of a new facility at the northwest corner of Mapes Road and Taylor Avenue; and 2) construction of a new facility within the East Campus area located within the National Security Agency's fenceline and use Building 8605 for a portion of the administrative and logistics staff (Enclosure 2).

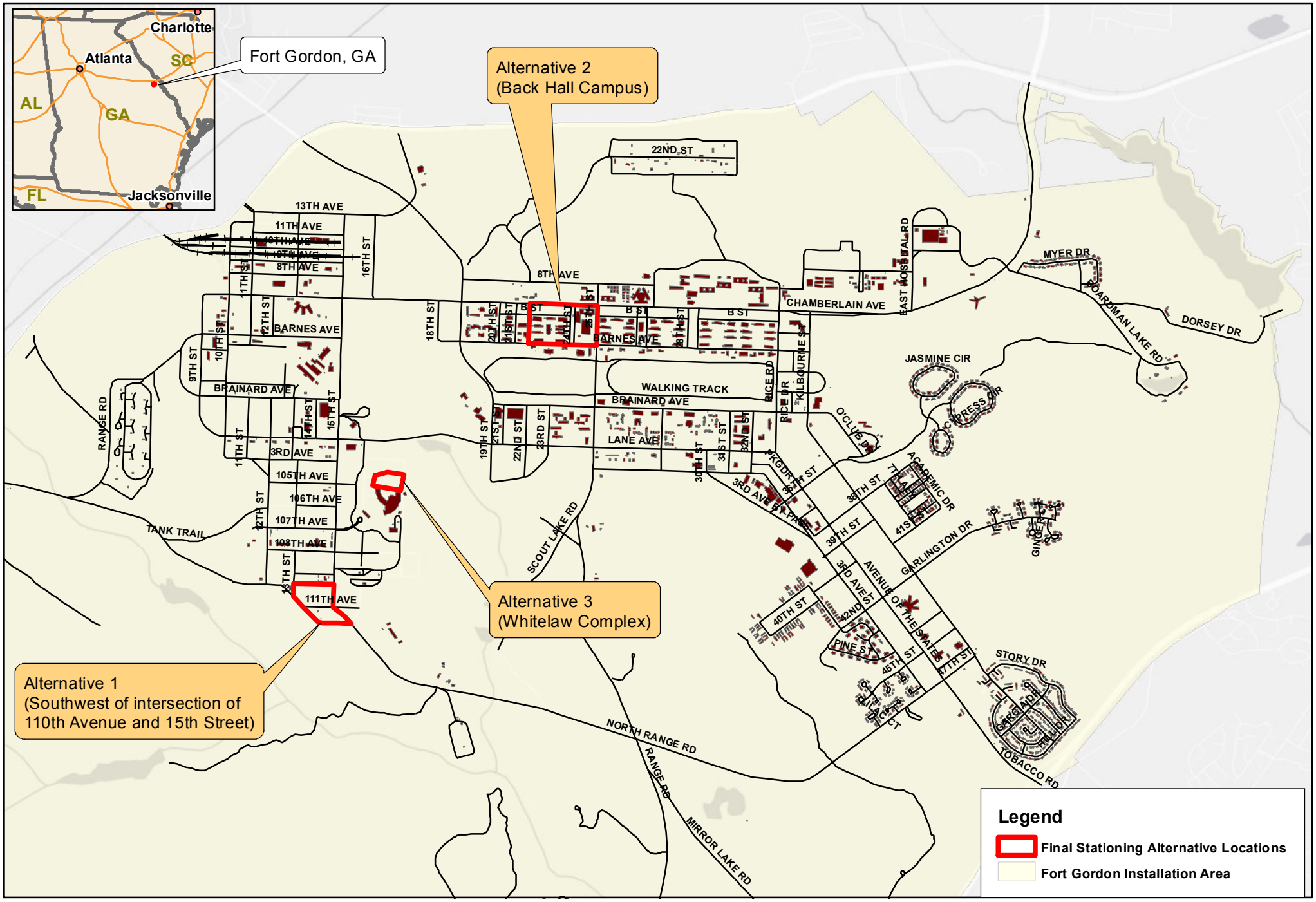
This EA will evaluate the potential environmental effects that may occur as a result of the Proposed Action and will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended.

Interested parties are invited to submit written comments for consideration within 30 days of this notice. Any comments received will be considered in the preparation of the EA. This Public Notice is being distributed to organizations and individuals that are known to have an interest in this project (Enclosures 3 and 4). Please bring this matter to the attention of any other organizations or individuals with an interest in this matter. Comments must be submitted within 30 days of the date of this notice to: ARCYBER_NEPA@usace.army.mil.

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Date: 12 April 2012

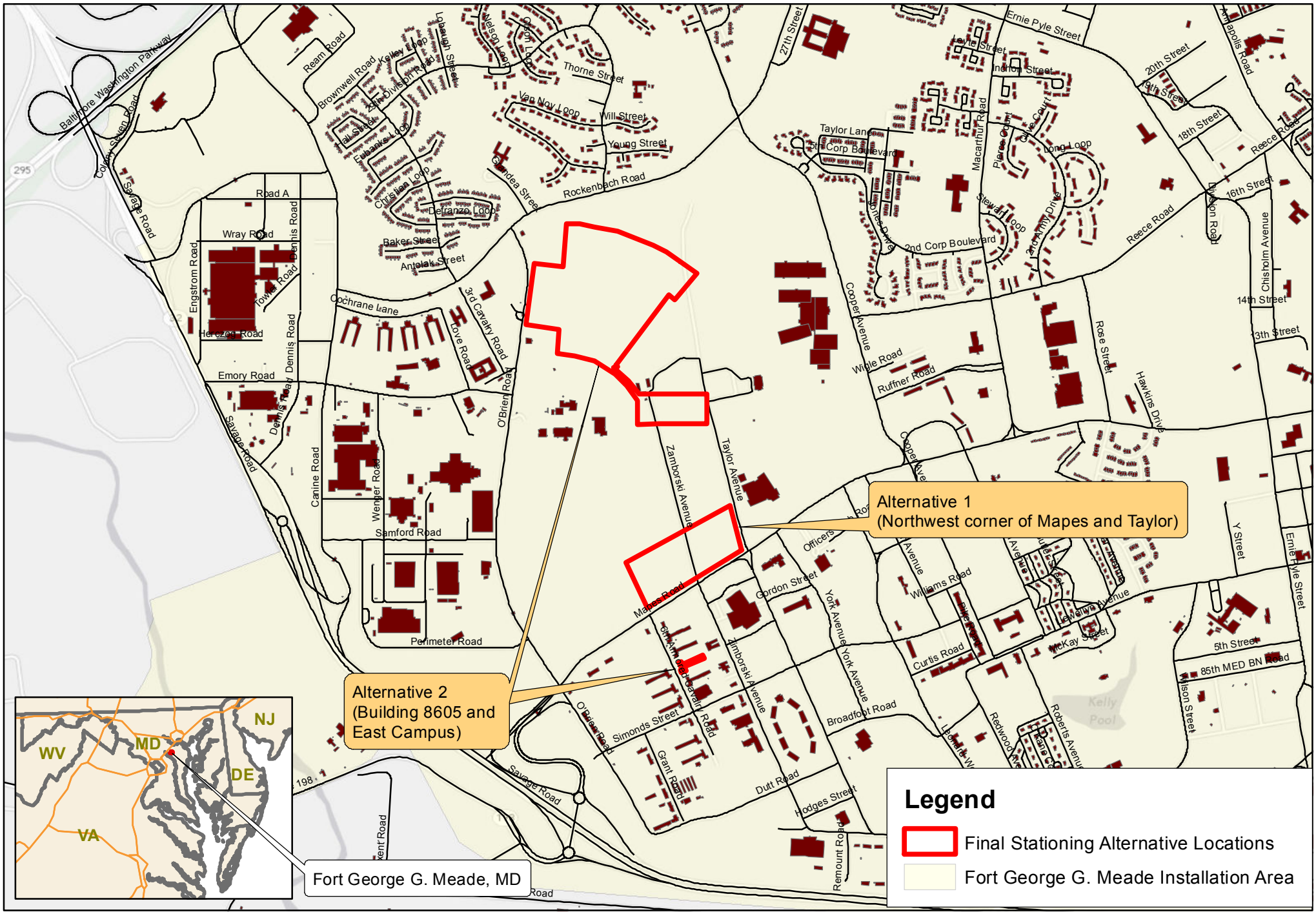
Enclosures



ENCLOSURE 1
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared March 13, 2012



ENCLOSURE 2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort George G. Meade, MD

0 750 1,500 3,000 4,500 6,000 Feet

Prepared March 13, 2012

ENCLOSURE 3
Public Notice Mail List
Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia

Federal and State Agencies

EPA Region 4
Heinz J. Mueller, Chief
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

Georgia Historic Preservation Division
Attn: Dr. David Crass
254 Washington Street, SW
Ground Level
Atlanta, GA 30334-9007

US Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

David M. Jennings
Environmental Protection Specialist
Installation Management Command, Atlantic Region
IMAT-PWD-E
705 Washington Boulevard
Fort Eustis, VA 23604-5515

Georgia Environmental Protection Division
Northeast District
Attn: Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Attn: Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

Georgia Dept. of Natural Resources
Historic Preservation Division
Attn: Ms. Elizabeth Shirk
254 Washington Street, SW; Ground Level;
Atlanta, GA 30334

Georgia Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329

Georgia Dept of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308

Regional and Local Offices

Brier Creek Soil and Water Conservation District
2531 Perkins Green Fork Road
Perkins, GA 30822-5337

Columbia County Soil and Water Conservation District
501 Greene Street, Suite 309
Augusta, GA 30901-4427

McDuffie County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

George Patty, Director
Augusta-Richmond
Planning and Development Department
525 Telfair Street
Augusta, GA 30901

Lillian Easterlin, Executive Director
Jefferson County Chamber of Commerce
P.O. Box 630
302 East Broad Street
Louisville, GA 30434

Department of Planning
Columbia County Government Center
630 Ronald Reagan Drive
Building A, West Wing
P.O. Box 498
Evans, GA 30809

McDuffie County Planning Commission
City/County Government Complex
210 Railroad Street
Thomson, GA 30824

ENCLOSURE 4
Public Notice Mail List
Environmental Assessment
Army Cyber Command and Control Facility
Fort George G. Meade

State and Federal Agencies

Ms. Lori Byrne
Maryland Dept. of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

Ms. Linda C. Janey
Maryland State Clearinghouse
Maryland Office of Planning, Suite 1101
301 West Preston Street
Baltimore, MD 21201-2365

Ms. Brigid E. Kenney
Office of the Secretary
Maryland Department of Environment
1800 Washington Blvd.
Baltimore, MD 21230

Mr. Leopoldo Miranda
U.S. Dept. of the Interior Fish & Wildlife Services
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Mr. William Arguto
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103
Mail Code EA30

Maryland Dept. of Housing & Community
Development Maryland Historical Trust
Division of Historical and Cultural Programs
ATTN: Elizabeth J. Cole
100 Community Place
Crownsville, MD 21032-2023

State of Maryland Dept. of Agriculture
ATTN: Ms. Joe Oberg
Public Information Officer
50 Harry S. Truman Parkway
Annapolis, Maryland 21401

Maryland Department of Planning
ATTN: Mr. Bob Rosenbush, Planner
301 West Preston Street, Suite 1101
Baltimore, MD 21201

Maryland Dept of Transportation
State Highway Administration
ATTN: Lee Johnston
707 North Calvert Street
Mail Stop C303
Baltimore, Maryland 21202

Regional and Local Offices

Ms. Ginger Ellis
Anne Arundel County Maryland
Office of Environmental & Cultural Resources
2664 Riva Rd
Annapolis, MD 21401

Mr. Joseph A. Haamid
Resource Conservationist
Anne Arundel Soil Conservation District
Heritage Office Center
2662 Riva Road, Suite 150, MS #7001
Annapolis, MD 21401-7377

Mr. George G. Cardwell
Anne Arundel County
Office of Planning and Zoning
Heritage Office Complex
2664 Riva Rd, MS 6403
Annapolis, MD 21401

Mr. Jean Friedberg
Fort Meade RGMC
6751 Columbia Gateway Drive
Suite 500
Columbia, MD 21046

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

12 April 2012

EPA Region 4
Heinz J. Mueller, Chief
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

Dear Mr. Mueller:

Subject: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

ARCYBER proposes to construct a command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. Enclosed please find a letter and a public notice from the Baltimore District, U.S. Army Corps of Engineers, which is part of their coordination effort for the EA. The Corps' letter requests that all comments or questions on the proposed action be submitted to the reference email address within the letter. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact me at Fort Gordon's Natural Resources Management Branch at (706) 791-9209.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

EPA Region 4
Heinz J. Mueller, Chief
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

Dear Mr. Mueller:

On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

The three alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon include: 1) construct a new facility in a 16-acre site southwest of the intersection of 110th Avenue and 15th Street; 2) renovate several buildings and construct additional space if needed within Back Hall Campus between 22nd to 25th and Chamberlain to Barnes; and 3) construct a wing on Whitelaw Hall as part of the planned Whitelaw Hall Phase 2 development for the entire ARCYBER Command. All components are proposed within the cantonment area of the installation. Please see the attached Public Notice for a map and description of these alternatives as well as the alternatives proposed for Fort George G. Meade. Fort George G. Meade's alternatives will be reviewed by its local, state and federal agencies.

To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 30 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil.

Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

12 April 2012

Georgia Environmental Protection Division
Northeast District
Attn: Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

Dear Mr. Darley:

Subject: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

ARCYBER proposes to construct a command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. Enclosed please find a letter and a public notice from the Baltimore District, U.S. Army Corps of Engineers, which is part of their coordination effort for the EA. The Corps' letter requests that all comments or questions on the proposed action be submitted to the reference email address within the letter. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact me at Fort Gordon's Natural Resources Management Branch at (706) 791-9209.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

Georgia Environmental Protection Division
Northeast District
Attn: Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

Dear Mr. Darley:

On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

The three alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon include: 1) construct a new facility in a 16-acre site southwest of the intersection of 110th Avenue and 15th Street; 2) renovate several buildings and construct additional space if needed within Back Hall Campus between 22nd to 25th and Chamberlain to Barnes; and 3) construct a wing on Whitelaw Hall as part of the planned Whitelaw Hall Phase 2 development for the entire ARCYBER Command. All components are proposed within the cantonment area of the installation. Please see the attached Public Notice for a map and description of these alternatives as well as the alternatives proposed for Fort George G. Meade. Fort George G. Meade's alternatives will be reviewed by its local, state and federal agencies.

To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 30 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil.

Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

12 April 2012

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

Dear Ms.Morris:

Subject: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

ARCYBER proposes to construct a command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. Enclosed please find a letter and a public notice from the Baltimore District, U.S. Army Corp of Engineers, which is part of their coordination effort for the EA. The Corps' requests that all comments or questions on the proposed action be submitted to the reference email address within the letter. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact me at Fort Gordon's Natural Resources Management Branch at (706) 791-9209.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Attn: Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

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On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 30 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil.

Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

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US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

12 April 2012

Installation Management Command,
Atlantic Region
Attn: David Jennings
IMAT-PWD-E
705 Washington Blvd
Fort Eustis, VA 23604-5515

Dear Mr. Jennings:

Subject: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

ARCYBER proposes to construct a command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. Enclosed please find a letter and a public notice from the Baltimore District, U.S. Army Corps of Engineers, which is part of their coordination effort for the EA. The Corps' letter requests that all comments or questions on the proposed action be submitted to the reference email address within the letter. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact me at Fort Gordon's Natural Resources Management Branch at (706) 791-9209.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

David M. Jennings
Environmental Protection Specialist
Installation Management Command, Atlantic Region
IMAT-PWD-E
705 Washington Boulevard
Fort Eustis, VA 23604-5515

Dear Mr. Jennings:

On behalf of the U.S. Army Cyber (ARCYBER) Command, the U.S. Army Corps of Engineers, Baltimore District, is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

The three alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon include: 1) construct a new facility in a 16-acre site southwest of the intersection of 110th Avenue and 15th Street; 2) renovate several buildings and construct additional space if needed within Back Hall Campus between 22nd to 25th and Chamberlain to Barnes; and 3) construct a wing on Whitelaw Hall as part of the planned Whitelaw Hall Phase 2 development for the entire ARCYBER Command. All components are proposed within the cantonment area of the installation. Please see the attached Public Notice for a map and description of these alternatives as well as the alternatives proposed for Fort George G. Meade. Fort George G. Meade's alternatives will be reviewed by its local, state and federal agencies.

To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 30 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil.

Sincerely,

Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

12 April 2012

U.S. Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

Dear Ms. Harris:

Subject: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

ARCYBER proposes to construct a command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. Enclosed please find a letter and a public notice from the Baltimore District, U.S. Army Corps of Engineers, which is part of their coordination effort for the EA. The Corps' letter requests that all comments or questions on the proposed action be submitted to the reference email address within the letter. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact me at Fort Gordon's Natural Resources Management Branch at (706) 791-9209.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

12 April 2012

Planning Division

US Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

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The purpose of this letter is to request a review of the project area and to solicit comments from your agency regarding impacts, if any, to threatened and endangered species in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) and Section 7 of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq).

To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 30 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil.

Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

US Army Corps of Engineers
Baltimore District

Supplement to Public Notice

Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia
Fort George G. Meade, Maryland

All Interested Parties: On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. The Public Notice advised that ARCYBER is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland (Enclosure 1). With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel.

As noted in the April 12, 2012, Public Notice, ARCYBER originally considered five alternatives for locating the new command and control facility. During the planning process, an additional site has been added to the alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon. This sixth alternative includes construction of a new facility along Kilbourne Street, which is located within the cantonment area of Fort Gordon (Enclosure 2). The addition of this site has prompted the submission of this Supplement to the Public Notice. Should additional sites be added during the planning process, you will have the opportunity to review when the draft EA is made available for public review.

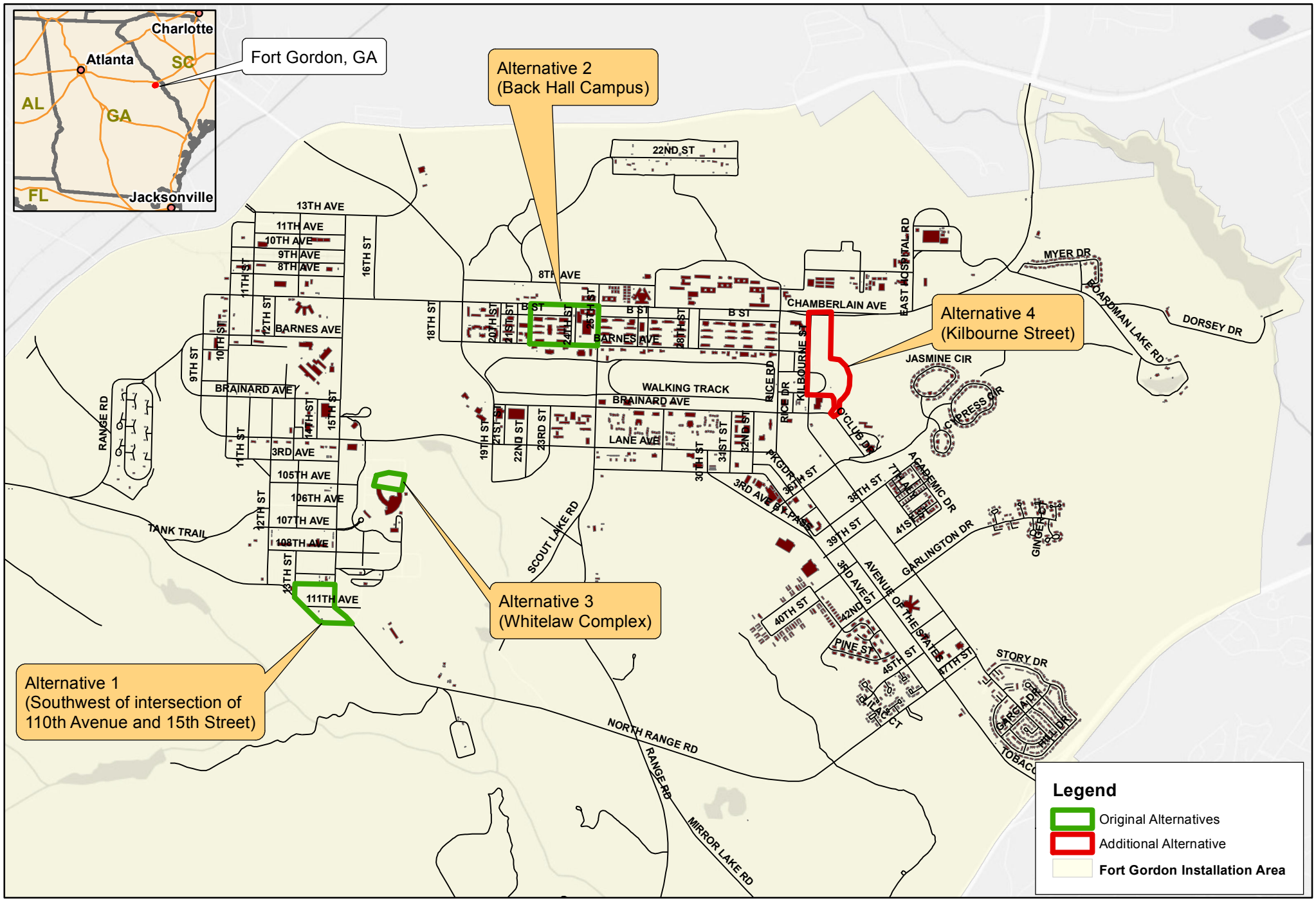
The EA will evaluate the potential environmental effects that may occur as a result of the Proposed Action and will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended.

Interested parties are invited to submit written comments for consideration within 15 days of this notice. Please note that it is not necessary to resubmit comments previously sent regarding this project. All comments received as a result of the April 12, 2012, Public Notice and this Supplement to the Public Notice will be considered in the preparation of the EA. This Public Notice is being distributed to organizations and individuals that are known to have an interest in this project (Enclosures 3 and 4). Please bring this matter to the attention of any other organizations or individuals with an interest in this matter. Comments must be submitted within 15 days of the date of this notice to: ARCYBER_NEPA@usace.army.mil.

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Date: Aug 7, 2012

Enclosures



ENCLOSURE 2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared July 30, 2012

ENCLOSURE 3
Public Notice Mail List
Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia

Federal and State Agencies

EPA Region 4
Mr. Heinz J. Mueller, Chief
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

Georgia Historic Preservation Division
Attn: Dr. David Crass
254 Washington Street, SW
Ground Level
Atlanta, GA 30334-9007

US Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

Mr. David M. Jennings
Environmental Protection Specialist
Installation Management Command, Atlantic Region
IMAT-PWD-E
705 Washington Boulevard
Fort Eustis, VA 23604-5515

Georgia Environmental Protection Division
Northeast District
Attn: Mr. Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Attn: Ms. Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

Georgia Dept. of Natural Resources
Historic Preservation Division
Attn: Ms. Elizabeth Shirk
254 Washington Street, SW; Ground Level;
Atlanta, GA 30334

Mr. Jon A. West
Georgia Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329

Ms. Amber Phillips
Georgia Dept of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308

Regional and Local Offices

Mr. Ron Milligan
Brier Creek Soil and Water Conservation District
2531 Perkins Green Fork Road
Perkins, GA 30822-5337

Mr. Robert Amos
Columbia County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

Mr. Robert Amos
McDuffie County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

Mr. George Patty, Director
Augusta-Richmond
Planning and Development Department
525 Telfair Street
Augusta, GA 30901

Ms. Lillian Easterlin, Executive Director
Jefferson County Chamber of Commerce
P.O. Box 630
302 East Broad Street
Louisville, GA 30434

Ms. Nayna Mistry
Department of Planning
Columbia County Government Center
630 Ronald Reagan Drive
Building A, West Wing
P.O. Box 498
Evans, GA 30809

Ms. Gail Newsome
McDuffie County Planning Commission
City/County Government Complex
210 Railroad Street
Thomson, GA 30824

ENCLOSURE 4
Public Notice Mail List
Environmental Assessment
Army Cyber Command and Control Facility
Fort George G. Meade

State and Federal Agencies

Ms. Lori Byrne
Maryland Dept. of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

Ms. Linda C. Janey
Maryland State Clearinghouse
Maryland Office of Planning, Suite 1101
301 West Preston Street
Baltimore, MD 21201-2365

Ms. Brigid E. Kenney
Office of the Secretary
Maryland Department of Environment
1800 Washington Blvd.
Baltimore, MD 21230

Ms. Genevieve LaRouche
U.S. Dept. of the Interior Fish & Wildlife Services
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Mr. William Arguto
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103
Mail Code EA30

Maryland Dept. of Housing & Community
Development Maryland Historical Trust
Division of Historical and Cultural Programs
ATTN: Ms. Elizabeth J. Cole
100 Community Place
Crownsville, MD 21032-2023

State of Maryland Dept. of Agriculture
ATTN: Ms. Joe Oberg
Public Information Officer
50 Harry S. Truman Parkway
Annapolis, Maryland 21401

Maryland Department of Planning
ATTN: Mr. Bob Rosenbush, Planner
301 West Preston Street, Suite 1101
Baltimore, MD 21201

Maryland Dept of Transportation
State Highway Administration
ATTN: Ms. Kathryn Robbins
707 North Calvert Street
Mail Stop C303
Baltimore, Maryland 21202

Regional and Local Offices

Ms. Ginger Ellis
Anne Arundel County Maryland
Office of Environmental & Cultural Resources
2664 Riva Rd
Annapolis, MD 21401

Mr. Joseph A. Haamid
Resource Conservationist
Anne Arundel Soil Conservation District
Heritage Office Center
2662 Riva Road, Suite 150, MS #7001
Annapolis, MD 21401-7377

Mr. George G. Cardwell
Anne Arundel County
Office of Planning and Zoning
Heritage Office Complex
2664 Riva Rd, MS 6403
Annapolis, MD 21401

Mr. Jean Friedberg
Fort Meade RGMC
6751 Columbia Gateway Drive
Suite 500
Columbia, MD 21046

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

7 August 2012

Georgia Environmental Protection Division
Northeast District
Attn: Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

Dear Mr. Darley:

Reference: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

ARCYBER proposes to construct a command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. Enclosed please find a letter and information regarding a sixth alternative site on Fort Gordon as part of the continued scoping effort for the EA.

The letter requests that all comments or questions be submitted to the reference email address within the letter. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact Mr. Robert Drumm of Fort Gordon's Natural Resources Management Branch at (706) 791-6374.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

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Northeast District
Attn: Mr. Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

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Attached are the comments that we received from your office regarding the April 12, 2012, Public Notice. To assist us in identifying issues that may affect the implementation of this project, please provide only additional written comments within 15 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil. Please note that it is not necessary to resubmit comments previously sent regarding this project. All comments received as a result of the April 12, 2012, Public Notice and this Supplement to the Public Notice will be considered in the preparation of the EA.

Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

7 August 2012

U.S. Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

Dear Ms. Harris:

Reference: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

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Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

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Ecological Services Office
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Sincerely,

Enclosures

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

7 August 2012

EPA Region 4
Heinz J. Mueller, Chief
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

Dear Mr. Mueller:

Reference: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

ARCYBER proposes to construct a command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. Enclosed please find a letter and information regarding a sixth alternative site on Fort Gordon as part of the continued scoping effort for the EA.

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If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact Mr. Robert Drumm of Fort Gordon's Natural Resources Management Branch at (706) 791-6374.

Sincerely,

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Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

EPA Region 4
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61 Forsyth Street
Atlanta, GA 30303-8960

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Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

7 August 2012

Installation Management Command,
Atlantic Region
Attn: David Jennings
IMAT-PWD-E
705 Washington Blvd
Fort Eustis, VA 23604-5515

Dear Mr. Jennings:

Reference: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

ARCYBER proposes to construct a command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. Enclosed please find a letter and information regarding a sixth alternative site on Fort Gordon as part of the continued scoping effort for the EA.

The letter requests that all comments or questions be submitted to the reference email address within the letter. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact Mr. Robert Drumm of Fort Gordon's Natural Resources Management Branch at (706) 791-6374.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

Mr. David M. Jennings
Environmental Protection Specialist
Installation Management Command, Atlantic Region
IMAT-PWD-E
705 Washington Boulevard
Fort Eustis, VA 23604-5515

Dear Mr. Jennings:

On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District, distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. The Public Notice advised that ARCYBER is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland (Enclosure 1). With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

As noted in the April 12, 2012, Public Notice, ARCYBER originally considered five alternatives for locating the new command and control facility. During the planning process, an additional site has been added to the alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon. This sixth alternative includes construction of a new facility along Kilbourne Street, which is located within the cantonment area of Fort Gordon (Enclosure 2). The addition of this site has prompted the submission of the attached Supplement to the Public Notice. Should additional sites be added during the planning process, you will have the opportunity to review when the draft EA is made available for public review.

To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 15 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil. All comments received as a result of the April 12, 2012, Public Notice and this Supplement to the Public Notice will be considered in the preparation of the EA.

Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

7 August 2012

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

Dear Ms. Morris:

Reference: U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA)

ARCYBER proposes to construct a command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. Enclosed please find a letter and information regarding a sixth alternative site on Fort Gordon as part of the continued scoping effort for the EA.

The letter requests that all comments or questions be submitted to the reference email address within the letter. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact Mr. Robert Drumm of Fort Gordon's Natural Resources Management Branch at (706) 791-6374.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1715
BALTIMORE, MARYLAND 21203-1715

REPLY TO
ATTENTION OF

7 August 2012

Planning Division

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Attn: Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

Dear Ms. Morris:

On April 12, 2012, the U.S. Army Corps of Engineers, Baltimore District, distributed a Public Notice to Federal, State, and Local agencies, on behalf of the U.S. Army Cyber (ARCYBER) Command. The Public Notice advised that ARCYBER is preparing an Environmental Assessment (EA) to evaluate potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland (Enclosure 1). With the projected growth of the Command, the resulting facility would be capable of supporting a workforce of approximately 1,500 personnel. The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

As noted in the April 12, 2012, Public Notice, ARCYBER originally considered five alternatives for locating the new command and control facility. During the planning process, an additional site has been added to the alternatives to be evaluated in the EA for locating the command and control facility at Fort Gordon. This sixth alternative includes construction of a new facility along Kilbourne Street, which is located within the cantonment area of Fort Gordon (Enclosure 2). The addition of this site has prompted the submission of the attached Supplement to the Public Notice. Should additional sites be added during the planning process, you will have the opportunity to review when the draft EA is made available for public review.

To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 15 days of receipt of this letter to: ARCYBER_NEPA@usace.army.mil. All comments received as a result of the April 12, 2012, Public Notice and this Supplement to the Public Notice will be considered in the preparation of the EA.

Sincerely,

Lawrence D. Eastman
Chief, Planning and Environmental
Services Branch

Enclosures

Georgia Department of Natural Resources
Environmental Protection Division
Northeast District - Augusta Office
1885 Tobacco Rd., Suite A, Augusta, Georgia 30906-8825
Mark Williams, Commissioner
Judson H. Turner, Director
706-792-7744

May 1, 2012

Mr. Lawrence D. Eastman, Chief
Planning and Environmental Services Branch
Department Of The Army
Baltimore District, Corps of Engineers
P.O. Box 1715
Baltimore, Maryland 21203-1715

RE: **Environmental Assessment for the proposed U.S. Army Cyber (ARCYBER) facility**
Fort Gordon

Dear Mr. Eastman:

On April 13, 2012 the Environmental Protection Division (EPD) Northeast District – Augusta Office received a letter requesting information and input regarding the proposed ARCYBER command and control facility at Fort Gordon, Georgia. The following is a brief summation of our comments for these activities with relevance to the Georgia Water Quality Control Act, Water Quality Control Regulations and the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated With Construction Activity (NPDES General Permit) and the Georgia Erosion and Sedimentation Act of 1975:

- Land disturbance activities located within 200 feet of a State Water will require the proper Land Disturbance Activity permit from the respective Local Issuing Authority (LIA);
- Land disturbance activities conducted within the 25 foot buffer of a State Water will require a Buffer Variance application to and approval from EPD;
- Construction activities discharging storm water associated with construction projects that will result in disturbance equal to or greater than one (1) acre will require the owner and/or operator to secure a permit from the LIA, submit a Notice of Intent (NOI) to EPD, submit applicable fees, and submit for review and approval an Erosion, Sedimentation and Pollution Control Plan (ES&PCP) that was designed by a Georgia Soil and Water Conservation Commission (GSWCC) certified design professional.

It is the intention of the Environmental Protection Division to restore and maintain purity in waters of the State. If you have any questions regarding this matter, please do not hesitate to call.

Sincerely,

Delaine Scott

Delaine Scott
Environmental Specialist
Northeast District - Augusta Office
(706) 792-7744

DS
CC: Augusta Office Files/Richmond County/Construction Storm Water/Fort Gordon
Robert L. Drumm, Chief, Natural Resources Branch, DPW, ED, Fort Gordon, GA 30909 – via email

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

7 August 2012

Dr. David Crass
Georgia Department of Natural Resources
Historic Preservation Division
254 Washington Street, SW
Ground Level
Atlanta, Georgia 30334-9007

Dear Dr. Crass:

The purpose of this letter is to consult with your office as required by Section 106 of the National Historic Preservation Act regarding the proposed command and control facility for U.S. Army Cyber (ARCYBER) Command at Fort Gordon; Richmond, Jefferson, McDuffie, and Columbia Counties; Georgia or Fort Meade, Maryland. In order to accommodate the relocation and projected growth of the ARCYBER Command, a new or existing facility at Fort Gordon or Fort Meade must be obtained that is capable of supporting a workforce of approximately 1,500 personnel.

Four alternatives are being considered for the proposed ARCYBER command and control facility at Fort Gordon, as shown on Enclosures 1 and 2 to this letter. The four alternatives include: 1) constructing a new facility on a 16-acre site southwest of the intersection of 110th Avenue and 15th Street; 2) renovating several buildings and constructing additional space, if needed, within the Back Hall Campus between 22nd and 25th Streets and Chamberlain and Barnes Streets; 3) constructing a new wing on Whitelaw Hall (HP-050706-002); and 4) constructing a new facility along Kilbourne Street.

Fort Gordon has considered the potential effects of the four alternatives on historic properties. All four alternatives are located within the Fort Gordon cantonment, which has been previously determined to be disturbed and does not contain any National Register eligible archeological sites (*Integrated Cultural Resource Management Plan,* Fort Gordon, 2011:26). Alternative 2 will require the renovation of up to 16 buildings, ten of which (Buildings 21714 - 21718, 21720 – 21722 and 24701) were surveyed as part of the "Rolling Pins Barracks" complex and found to be ineligible for listing in the National Register of Historic Places (*Fort Gordon Cold War Architectural Survey, Volume 3: Barracks Areas Survey Forms*, Smith and Stone 2005). The remaining six buildings (24702, 24704, 24705, R1720, R1721, and R4701) were constructed in 2006 and 2007 and have not reached 50 years of age. These six buildings do not possess any exceptional importance that would make them eligible for the National Register under Criteria Consideration G.

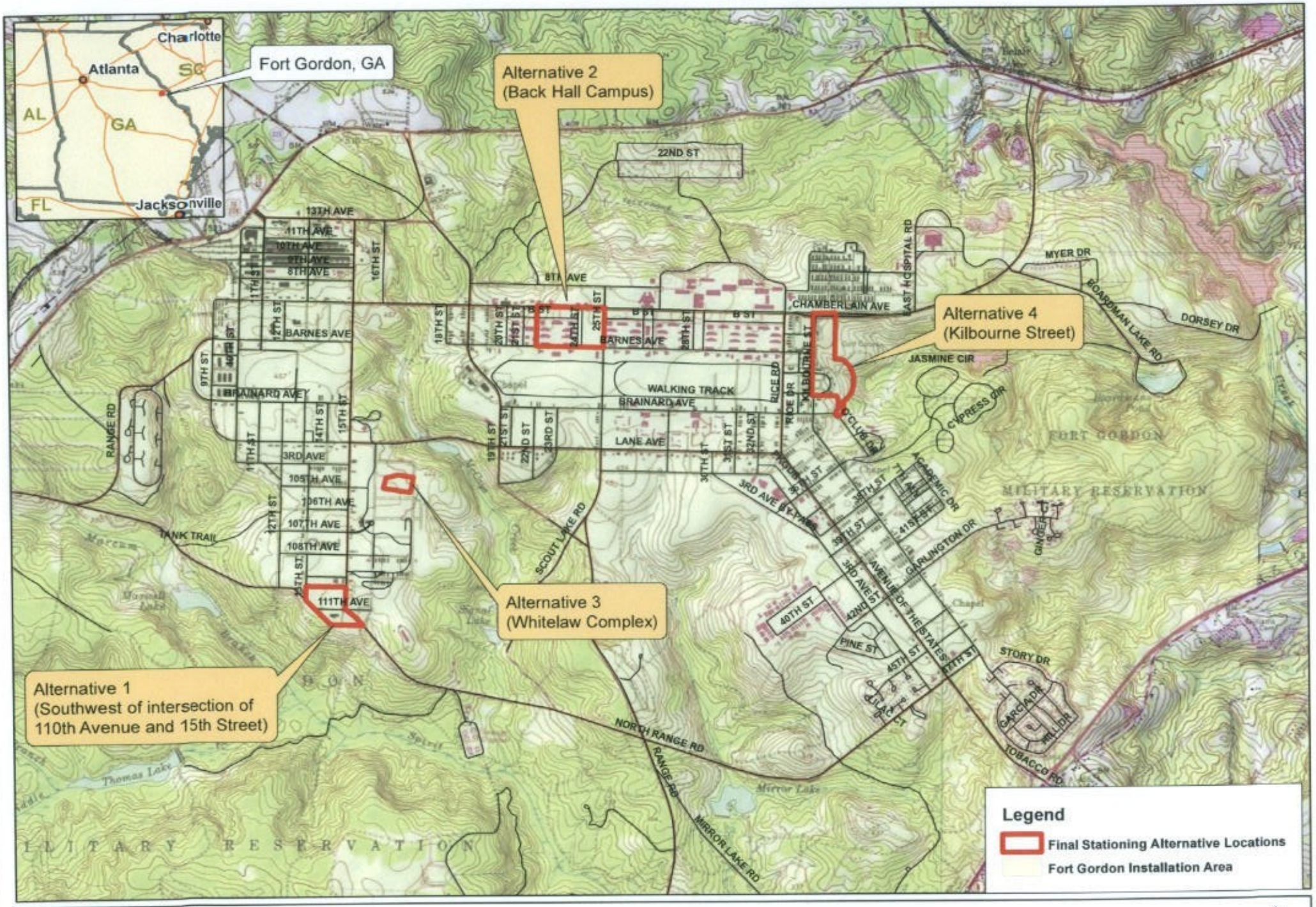
Fort Gordon has determined that implementation of any of the four alternatives will have no effect on historic properties and no further work is recommended. Should we become aware, from any source, that historic properties are located at or near the property, we will notify your office immediately.

Thank you for your assistance with the ARCYBER command and control facility project. If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact me at Fort Gordon's Natural Resources Management Branch at (706) 791-9209.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

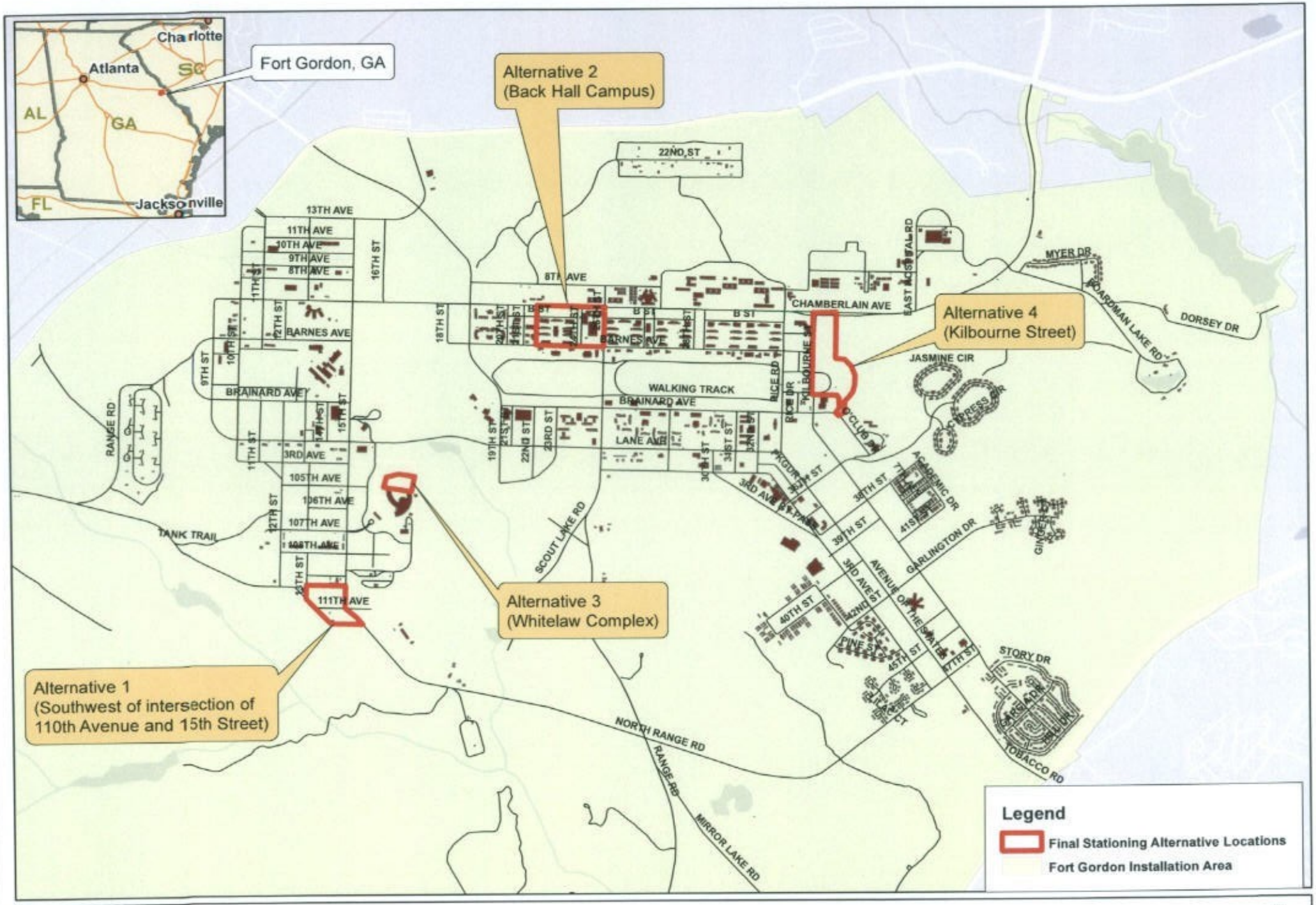


USGS QUADRANGLE
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared July 24, 2012

ENCLOSURE 1



ENCLOSURE 2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared July 19, 2012

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

7 August 2012

Georgia Dept. of Natural Resources
Historic Preservation Division
Attn: Ms. Elizabeth Shirk
254 Washington Street, SW; Ground Level; Atlanta, GA 30334

Dear Ms. Shirk:

The purpose of this letter is to consult with your office as required by Section 106 of the National Historic Preservation Act regarding the proposed command and control facility for U.S. Army Cyber (ARCYBER) Command at Fort Gordon; Richmond, Jefferson, McDuffie, and Columbia Counties; Georgia or Fort Meade, Maryland. In order to accommodate the relocation and projected growth of the ARCYBER Command, a new or existing facility at Fort Gordon or Fort Meade must be obtained that is capable of supporting a workforce of approximately 1,500 personnel.

Four alternatives are being considered for the proposed ARCYBER command and control facility at Fort Gordon, as shown on Enclosures 1 and 2 to this letter. The four alternatives include: 1) constructing a new facility on a 16-acre site southwest of the intersection of 110th Avenue and 15th Street; 2) renovating several buildings and constructing additional space, if needed, within the Back Hall Campus between 22nd and 25th Streets and Chamberlain and Barnes Streets; 3) constructing a new wing on Whitelaw Hall (HP-050706-002); and 4) constructing a new facility along Kilbourne Street.

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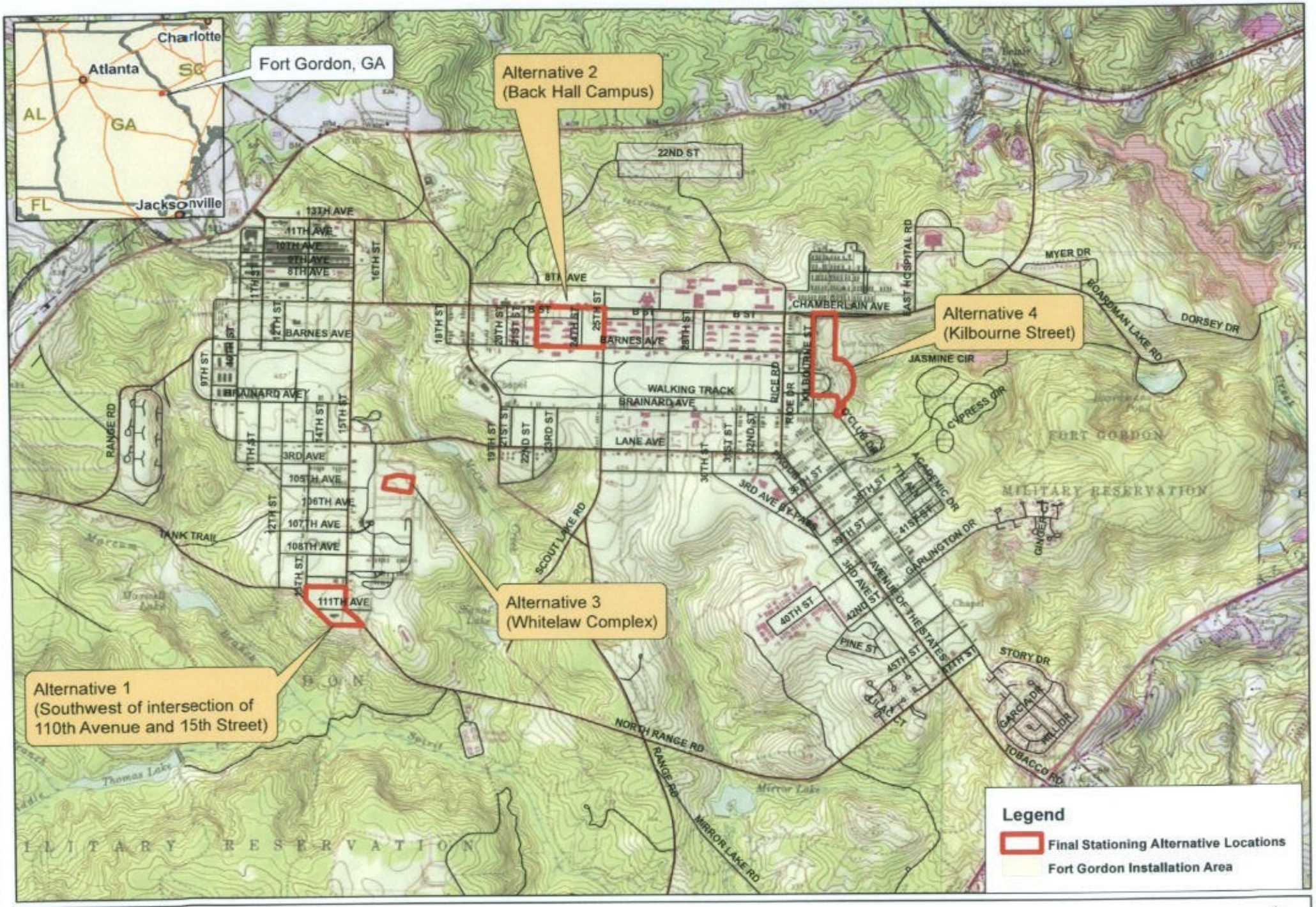
Fort Gordon has determined that implementation of any of the four alternatives will have no effect on historic properties and no further work is recommended. Should we become aware, from any source, that historic properties are located at or near the property, we will notify your office immediately.

Thank you for your assistance with the ARCYBER command and control facility project. If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact me at Fort Gordon's Natural Resources Management Branch at (706) 791-9209.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

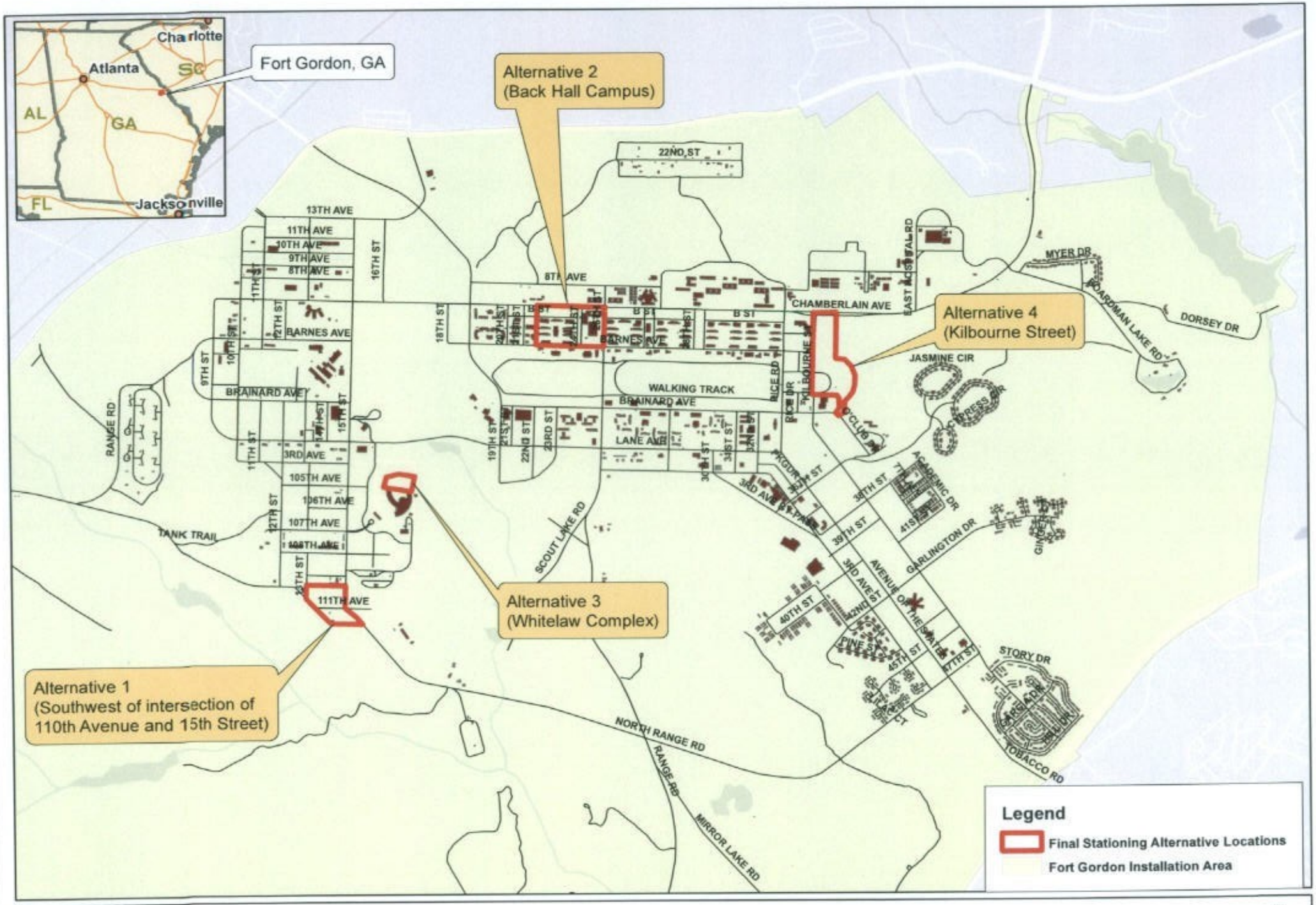


USGS QUADRANGLE
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared July 24, 2012

ENCLOSURE 1



ENCLOSURE 2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared July 19, 2012

AUGUSTA PLANNING AND DEVELOPMENT DEPARTMENT
GEORGE A. PATTY
DIRECTOR
525 TELFAIR STREET
AUGUSTA, GEORGIA 30901
PHONE: (706) 821-1796
FAX: (706) 821-1806
www.AugustaGA.gov

April 23, 2012

Lawrence D. Eastman
Chief, Planning and Environmental
Service Branch
US Army Corps of Engineers
Baltimore District
P O Box 1715
Baltimore, MD 21203

RE: Environmental Assessment Army Cyber Command and Control Facility

Dear Mr. Eastman:

I am the director of the Planning and Development Department for Augusta, Georgia, a consolidated City and County government within which most of Fort Gordon is located. We believe that Fort Gordon is well suited to accept additional functions and development. We have worked cooperatively with Fort Gordon on many issues and the City's Comprehensive Land Use Plan supports the addition of new uses at the installation.

We completed a Joint Land Use Study in 2005 with Fort Gordon and the other surrounding local governments which resulted in policies and ordinance changes designed to protect the perimeter of the installation from various forms of encroachment. The City is now providing potable water to the installation and our system can accommodate substantial growth. We have established cooperation with the installation in dealing with soil erosion and NPDES requirements, and we recently installed a state of the art interactive traffic signal system at the two main gates to eliminate traffic congestions and provide easy access to the interstate system.

We do not see any environmental issues that would be affected by locating the Cyber Command and Controls facility at Fort Gordon.

Sincerely,

George A. Patty
Director

GEORGIA DEPARTMENT OF
COMMUNITY AFFAIRS

Mike Beatty
COMMISSIONER

Nathan Deal
GOVERNOR

May 1, 2012

Lawrence D. Eastman
Chief, Planning and Environmental Services Branch
U.S. Army Corps of Engineers: Baltimore District
Post Office Box 1715
Baltimore, MD 21203-1715

RE: Comments on Environmental Assessment—Army Cyber Command and Control Facility, Fort Gordon, Georgia

Mr. Eastman,

The Georgia Department of Community Affairs welcomes the opportunity to comment on your Environmental Assessment for the U.S. Army Cyber (ARCYBER) Command's potential site at Fort Gordon, Georgia. It is DCA's belief that continued, effective, successful development of Fort Gordon is fundamental to the economic vitality of the communities surrounding the installation and the continued vigor of the Augusta-Richmond County Metropolitan Area, as a whole. The Corps of Engineers is properly taking the critical step of developing a substantive, holistic assessment that meaningfully assess all the various potential effects that this project.

It is the belief of the Department of Community Affairs that, regardless of which of the three alternatives being evaluated for locating the command and control facility at Fort Gordon is chosen, the potential positive impacts of the influx of up to 1,500 personnel into the local economy would be significant and far-reaching. The historic cores of the communities surrounding the installation, particularly that of the City of Augusta, support a variety of retail and service-oriented enterprises which would benefit greatly from the additional customer base provided by new personnel. Both in their commercial centers and closer to Fort Gordon, the communities have additional space for expansion, as necessary, to accommodate new base-oriented development.

Practically, none of the three site alternatives being evaluated presents meaningful impediments to development of which we are aware. We are confident that whichever site is chosen, based

upon whatever specific criteria are required by the project, any potential adverse impacts will not be immitigable. Significantly, the Fort Gordon installation is buffered from its surrounding communities by a fairly wide swath of undeveloped land which provides a wealth of opportunity for continued expansion, if that should be required in the future.

Georgia and the Augusta area in particular have a long history of "Southern hospitality". We go out of our way to welcome both visitors and those who seek to make their homes here. The workers associated with command and control facility and any of their families based at Fort Gordon would find a community pleased to have them here, good schools to educate their children, excellent food, and plentiful opportunities for passive and active recreation.

Fort Gordon and the people that live and work there are important to Georgia. It and they are a part of us. We welcome and support the possibility of "growing" the installation and strengthening our relationship with the U.S. Army, the men and women who serve, and their families. The Georgia Department of Community Affairs stands ready to assist you, the U.S. Army Corps of Engineers and ARCYBER as you move forward with your evaluation and decision-making processes. If there is any specific information you need that we can provide, please do not hesitate to contact us.

Warm Regards,

Jon A. West
Office of Planning & Environmental Management

From:
Sent: Monday, May 14, 2012 8:21 AM
To: CENAB-PL ARCYBER_NEPA
Subject: FW: Public Notice ARCYBER Command and Control Facility

Deborah - My staff told me that we have no comments about this project. Please let me know if you need anything else.

Thank you.

Nayna Mistry
Planning and Engineering Division Manager Development Services Division Columbia County
630 Ronald Reagan Drive
Evans, Georgia 30809
Office: (706) 868 3400
Direct: (706) 312 7178
Fax: (706) 868 3405
nmistry@columbiacountyga.gov

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United States Department of the Interior

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

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

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

MAY 12 2012

Mr. Lawrence D. Eastman
Chief, Planning and Environmental Services Branch
Baltimore District, Corps of Engineers
Baltimore, Maryland 21203-1715

Re: NG-12-147-Rich

Dear Mr. Eastman:

Thank you for your April 12, 2012, letter requesting our review of the U.S. Army Cyber (ARCYBER) Command and control facility and Environmental Assessment (EA). The EA will evaluate the potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland.

We have reviewed the three alternatives at Fort Gordon, which are all located within the cantonment area, which is mostly developed with very little natural resources.
Federally-endangered or threatened species are not likely to occur at any of the three alternatives sites.

Please contact Deborah Harris in our Athens office (Deborah_C_Harris@fws.gov; 706-613-9493 ext. 224) if you have any questions about our evaluation of this project.

Sincerely,

Sandra S. Tucker

Sandra S. Tucker
Field Supervisor

cc: Robert Drumm, Fort Gordon, GA

From: Larry Gissentanna [Gissentanna.Larry@epamail.epa.gov]
Sent: Tuesday, September 11, 2012 9:48 AM
To: CENAB-PL ARCYBER_NEPA
Cc: robert.1.drumm6.civ@mail.mil
Subject: Fw: Scoping Comments U.S. Army Cyber (ARCYBER) Cmd Environmental Assessment (EA) dated 7 August 2012

Department Of The Army
Baltimore District, Corps Of Engineers
P.O. Box 1715
Baltimore, Maryland 21203-1715
Attn: Lawrence D. Eastman Chief Planning and Environmental Services Branch

Dear Mr Eastman,

Consistent with Section 102(2)(c) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) appreciates the opportunity to provide scoping comments on the U.S. Army Cyber (ARCYBER) Command Environmental Assessment (EA).

EPA's preliminary concerns at this time can be summarized to include the following:

* Purpose & Need - The EA should discuss the purpose of constructing the Army Cyber (ARCYBER) Command and Control facility. Clearly list the alternatives and the criteria for selecting the Preferred Alternative.

* Air Quality - The project must also be consistent with General Conformity requirements to the extent that predicted air emissions are above de minimis levels for this proposal. Additional air quality concerns include the secondary impacts often associated with additional administrative buildings relative to additional generators and vehicular emissions from increased traffic and any requirements relating to Transportation Conformity.

* Noise - The selected site should avoid if possible, the use of non-compatible land in order to minimize noise impacts to any nearby residents.

* Waters of the United States - Consistent with Section 404 of the Clean Water Act, the selected site should avoid and minimize, to the maximum extent practicable, placement of fill into jurisdictional waters of the United States, which include wetlands and streams. Any potential site should be assessed (delineated) for the presence of federally jurisdictional waters. It should be noted that jurisdictional waters of the United States can differ from waters of the State subject to State of Georgia laws and regulations, and which are the basis for any County issued permits. Any fill material in waters of the United States will require a permit or authorization from the Atlanta Office of the Savannah District U.S. Army Corps of Engineers (COE). We encourage you to initiate coordination with the COE as soon as your preferred site is identified and if there will be wetland or stream impacts associated with the project.

* Environmental Justice (EJ) – The environmental, socioeconomic and health related impacts to potential EJ populations should be evaluated in the proposed EA. The demographics of the area should be documented in terms of the existence of minority and low-income populations. This description should include US Census data for the geographic unit(s) such as the Census Block Group(s) (BGs) encompassing the airport. At a minimum, the percentages of minority and low-income populations within these BGs should be documented and compared against other

demographics of the area, as well as against the percentages of neighboring BGs, counties and the State of MS. In addition, other demographic factors like population age, density, literacy, etc. may also be important to the overall assessment. Meaningful collaboration with the community can also help to identify whether any "pockets" (concentrations) of EJ communities exist within a BG that otherwise (as a whole) may have a relatively low percentage of minorities and low-income populations. We suggest coordination with local community leaders and groups in an effort to engage these communities in the scoping, assessment and project design process. The EA should include maps of the surrounding communities and indicate the proximity of communities with potential EJ concerns to the proposed project area.

Depending on the outcome of the EJ assessment, it may be necessary to enhance public participation with susceptible EJ communities to better understand their concerns and to identify whether there is an increased potential for exposure to environmental hazards associated with the expansion of the proposed project. The EA should identify whether multiple or cumulative impacts are likely to occur. Any benefits to the affected communities that may be derived from the project should be also included in the EA including any construction or operation jobs related to the proposed airport expansion, or local training for those jobs. If the environmental impacts of the proposed project appear to fall disproportionately minority and/or low income populations, then mitigation options should also be considered.

For additional information, EPA Region 4’s interim EJ policy can be emailed upon request. EPA Guidance for Consideration of EJ in Clean Air Action Section 309 Reviews and EPA Guidance for Incorporating EJ Concerns in EPA's NEPA Compliance Analyses can be found at our website at http://www.epa.gov/compliance/resources/policies/nepa/index.html. Demographic information can be found at the U.S. Census Bureau -2010, U.S. Bureau of Labor Statistics, LAUS, and U.S. Bureau of Economic Analysis, REIS, 2005. Publically available EPA Web-based tools can also be used to conduct preliminary screening level EJ reviews. EJView: http://epamap14.epa.gov/ejmap/entry.html <http://epamap14.epa.gov/ejmap/entry.html> and NEPAssist: https://oasext.epa.gov/NEPA/ <https://oasext.epa.gov/NEPA/> . The information from these sources should be used in conjunction with information acquired the public involvement, community interviews, surveys and ground verification processes. Additional EJ clarification is available through Ntale Kajumba at 404/562-9620 or kajumba.ntale@epa.gov).

* NPDES - National Pollutant Discharge Elimination System (NPDES) permit coverage for both project construction and operation are needed for point-source discharges.

* Ground-Water Quality - In addition to waters of the United States and NPDES issues, there may be additional water quality concerns for the proposal that relate to groundwater. The EA should consider identifying existing ongoing restoration efforts within the project site. Protect monitoring wells to ensure they are not damaged or properly closed prior to demolition or construction. Damaged or improperly closed monitoring wells can serve as a conduit/source to contaminate the ground water. Discuss this in your EA.

* Cultural Resources - Impacts to historic and archaeological resources must also be reviewed, with listed sites avoided or appropriately relocated to the satisfaction of the Georgia State Historic Preservation Officer (SHPO). http://georgiashpo.org.

* Cumulative Impacts - The EA should also consider the cumulative impacts of the proposed project, particularly for those impacts generated by the project (e.g., noise and air quality). That is, the EA should discuss all (federal and non-federal) past, present, proposed and future (foreseeable within some 10-15 yrs) projects that are within the designated project area or affect that area (e.g., air/water currents). Such project areas are often designated by logical geographic boundaries such as watersheds or airsheds, or by other methods. The cumulative impact analysis can be important for even small projects if

their proposed location is in an area that is already extensively developed. The EA document should also discuss the future increase in personnel as a result of the new command.

* Installation Restoration- If the Preferred Alternative require the demolition of existing buildings, the EA should mention any contaminated sites on the facility / installation that are near or will be use as part of the new construction site.

* Recycling - Consider an aggressive recycling program for the buildings planned for demolitions. Divert as much material from the landfill as possible.

* Energy - Consider energy sustainable buildings utilizing variable forms of proven alternative energy applicable for this area. Please see attached for additional info.
http://www.wbdg.org/references/federal_mandates.php
<http://www.wbdg.org/references/federal_mandates.php>

Again, Thank you for the opportunity to provide comments to your project scoping letter, if you have any question, 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

United States Department of the Interior

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

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

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

SEP 13 2012

Mr. Lawrence D. Eastman
Chief, Planning and Environmental Services Branch
Baltimore District, Corps of Engineers
Baltimore, Maryland 21203-1715

Re: NG-12-147-Rich

Dear Mr. Eastman:

Thank you for your August 7, 2012, letter requesting our review of a sixth alternative for the U.S. Army Cyber (ARCYBER) Command facility at Fort Gordon, Georgia. The Environmental Assessment for this project will evaluate the potential environmental, cultural, transportation, and socioeconomic effects associated with all alternatives for the facility which will be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland.

We have reviewed the Enclosure 2 map showing the location of alternative six (Kilbourne Street) within the cantonment area. The cantonment area is mostly developed with very little natural resources. Federally-endangered or threatened species are not likely to occur at alternative six.

Please contact Deborah Harris in our Athens office (Deborah_C_Harris@fws.gov; 706-613-9493 ext. 224) if you have any questions about our evaluation of this project.

Sincerely,

FOR Sandra S. Tucker
Field Supervisor

cc: Robert Drumm, Fort Gordon, GA

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
10 SOUTH HOWARD STREET
BALTIMORE, MARYLAND 21201

26 September 2013

Dear Interested Party:

The U.S. Army Cyber (ARCYBER) Command has released the enclosed Notice of Availability (NOA) (Enclosure 1) for a draft final Environmental Assessment (EA) that evaluates potential environmental, cultural, transportation, and socioeconomic effects associated with the proposed ARCYBER command and control facility to be located at either Fort Gordon, Georgia, or Fort George G. Meade, Maryland. The draft final EA includes an additional alternative which was not previously coordinated with your agency. This seventh alternative, located within the cantonment area at Fort Gordon, includes construction of a new facility along 19th Street (Enclosure 2).

Please refer to the attached NOA for instructions on obtaining copies of the draft final EA and on submitting comments.

Sincerely,

Enclosures

Lawrence D. Eastman
Deputy Chief, Planning and Environmental
Services Branch

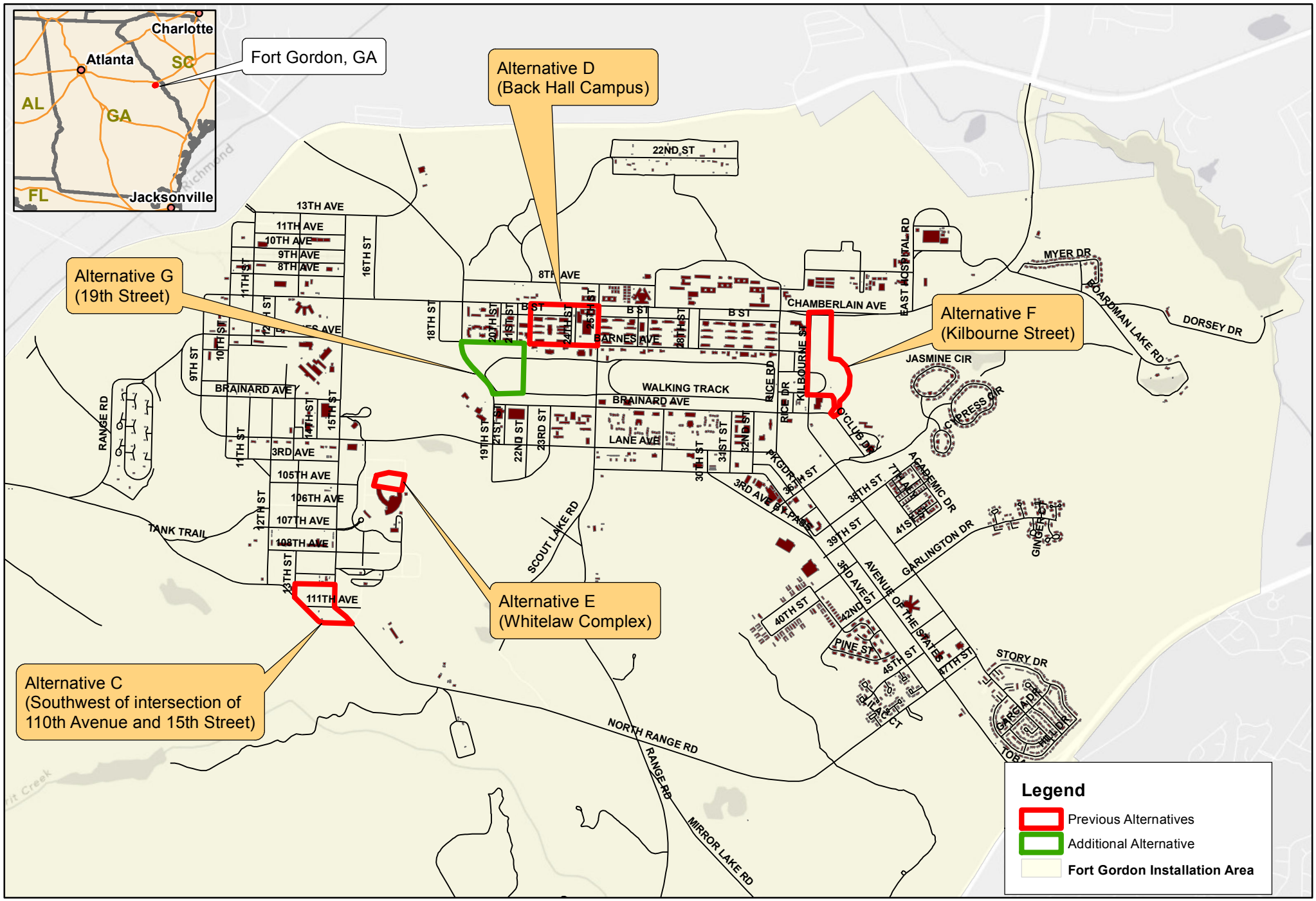
CF: See Mailing Lists

Notice of Availability
Draft Final Environmental Assessment (EA)
and Draft Finding of No Significant Impact (FNSI)
U.S. Army Cyber Command and Control Facility
Fort George G. Meade, MD / Fort Gordon, GA

U.S. Army Cyber Command / 2nd Army (ARCYBER) proposes to establish and operate a Command and Control Facility at Fort George G. Meade, Maryland or Fort Gordon, Georgia. The purpose of the Proposed Action is to construct a facility or renovate existing buildings to accommodate a workforce comprised of active duty military, government civilian and contract personnel at one of seven alternative site locations at either Fort Meade or Fort Gordon. The results, as found in the EA, show that the Proposed Action would not have a significant adverse impact on the environment, though the EA does not indicate a Preferred Alternative. At the conclusion of the public comment period, it is anticipated that a FNSI would be appropriate and would be signed for the Proposed Action. An Environmental Impact Statement therefore, is not necessary to implement the Proposed Action.

Copies of the draft EA and draft FNSI are available online at www.ftmeade.army.mil by clicking on the 'Environmental Programs' tab under 'Public Notices' and http://www.gordon.army.mil/dpw/ENV/nepa.htm. The documents can also be found at the following locations: Medal of Honor Memorial Library on Fort Meade; West County Area Library, 1325 Annapolis Road, Odenton, MD; Fort Gordon Public Affairs Office (Building 29801); Woodworth Library (Building 33500) on Fort Gordon; and Richmond County Main (HQ) Public Library, 823 Telfair Street, Augusta, Georgia. Additionally, copies can be obtained by contacting Suzanne Teague, Directorate of Public Works, Environmental Division, 4215 Roberts Avenue, STE 5115, Fort Meade, Maryland 20755 or by phone at 301-677-9185 or by email at suzanne.m.teague.civ@mail.mil or Robert Drumm, Directorate of Public Works, Environmental Division, 527 15th Street, Building 14500, Fort Gordon, Georgia 30905 or by phone at 706-791-6374 or by email at robert.l.drumm6.civ@mail.mil.

Comments on the draft final EA and draft FNSI may be submitted to Ms. Teague or Mr. Drumm no later than 30 days from the publication of this notice.



Enclosure 2
ARCYBER COMMAND AND CONTROL FACILITY
Final Stationing Alternative Locations
Fort Gordon, GA

0 1,500 3,000 6,000 9,000 12,000 Feet

Prepared July 23, 2013

Mailing List
Environmental Assessment
Army Cyber Command and Control Facility
Fort Gordon, Georgia

Federal and State Agencies

EPA Region 4
Mr. Heinz J. Mueller, Chief
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

Georgia Historic Preservation Division
Attn: Dr. David Crass
254 Washington Street, SW
Ground Level
Atlanta, GA 30334-9007

US Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

Mr. David M. Jennings
Environmental Protection Specialist
Installation Management Command, Atlantic Region
IMAT-PWD-E
705 Washington Boulevard
Fort Eustis, VA 23604-5515

Georgia Environmental Protection Division
Northeast District
Attn: Mr. Jeff Darley
885 Tobacco Road, Suite A
Augusta, GA 30906

Georgia Dept. of Natural Resources
Wildlife Resources Division
Georgia Natural Heritage Program
Attn: Ms. Katrina Morris
2065 U.S. H 278, SE
Social Circle, GA 30025

Georgia Dept. of Natural Resources
Historic Preservation Division
Attn: Ms. Elizabeth Shirk
254 Washington Street, SW; Ground Level;
Atlanta, GA 30334

Mr. Jon A. West
Georgia Department of Community Affairs
60 Executive Park South, NE
Atlanta, GA 30329

Ms. Amber Phillips
Georgia Dept of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308

Regional and Local Offices

Mr. Ron Milligan
Brier Creek Soil and Water Conservation District
2531 Perkins Green Fork Road
Perkins, GA 30822-5337

Mr. Robert Amos
Columbia County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

Mr. Robert Amos
McDuffie County Soil and Water Conservation District
P.O. Box 8024
Athens, GA 30603-8024

Mr. George Patty, Director
Augusta-Richmond
Planning and Development Department
525 Telfair Street
Augusta, GA 30901

Ms. Lillian Easterlin, Executive Director
Jefferson County Chamber of Commerce
P.O. Box 630
302 East Broad Street
Louisville, GA 30434

Ms. Nayna Mistry
Department of Planning
Columbia County Government Center
630 Ronald Reagan Drive
Building A, West Wing
P.O. Box 498
Evans, GA 30809

Ms. Gail Newsome
McDuffie County Planning Commission
City/County Government Complex
210 Railroad Street
Thomson, GA 30824

Mailing List
Environmental Assessment
Army Cyber Command and Control Facility
Fort George G. Meade

State and Federal Agencies

Ms. Lori Byrne
Maryland Dept. of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

Ms. Linda C. Janey
Maryland State Clearinghouse
Maryland Office of Planning, Suite 1101
301 West Preston Street
Baltimore, MD 21201-2365

Ms. Brigid E. Kenney
Office of the Secretary
Maryland Department of Environment
1800 Washington Blvd.
Baltimore, MD 21230

Ms. Genevieve LaRouche
U.S. Dept. of the Interior Fish & Wildlife Services
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Mr. William Arguto
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103
Mail Code EA30

Maryland Dept. of Housing & Community
Development Maryland Historical Trust
Division of Historical and Cultural Programs
ATTN: Ms. Elizabeth J. Cole
100 Community Place
Crownsville, MD 21032-2023

State of Maryland Dept. of Agriculture
ATTN: Ms. Joe Oberg
Public Information Officer
50 Harry S. Truman Parkway
Annapolis, Maryland 21401

Maryland Department of Planning
ATTN: Mr. Bob Rosenbush, Planner
301 West Preston Street, Suite 1101
Baltimore, MD 21201

Maryland Dept of Transportation
State Highway Administration
ATTN: Ms. Kathryn Robbins
707 North Calvert Street
Mail Stop C303
Baltimore, Maryland 21202

Regional and Local Offices

Ms. Ginger Ellis
Anne Arundel County Maryland
Office of Environmental & Cultural Resources
2664 Riva Rd
Annapolis, MD 21401

Mr. Joseph A. Haamid
Resource Conservationist
Anne Arundel Soil Conservation District
Heritage Office Center
2662 Riva Road, Suite 150, MS #7001
Annapolis, MD 21401-7377

Mr. George G. Cardwell
Anne Arundel County
Office of Planning and Zoning
Heritage Office Complex
2664 Riva Rd, MS 6403
Annapolis, MD 21401

Mr. Jean Friedberg
Fort Meade RGMC
6751 Columbia Gateway Drive
Suite 500
Columbia, MD 21046

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

23 September 2013

Dr. David Crass
Georgia Department of Natural Resources
Historic Preservation Division
254 Washington Street, SW
Ground Level
Atlanta, Georgia 30334-9007

Reference: *DRAFT FINAL ENVIRONMENTAL ASSESSMENT U.S. ARMY CYBER COMMAND AND CONTROL FACILITY Fort George G. Meade, MD and Fort Gordon, GA, 2013*

Dear Dr. Crass:

The purpose of this letter is to consult with your office as required by Section 106 of the National Historic Preservation Act regarding the proposed command and control facility for U.S. Army Cyber (ARCYBER) Command at Fort Gordon; Richmond, Jefferson, McDuffie, and Columbia Counties; Georgia or Fort Meade, Maryland. In order to accommodate the relocation and projected growth of the ARCYBER Command, a new or existing facility at Fort Gordon or Fort Meade must be obtained that is capable of supporting a workforce of approximately 1,500 personnel.

Enclosed please find the Notice of Availability (NOA) and information regarding a seventh alternative site (Site G) on Fort Gordon as part of the continued scoping effort for the EA. Fort Gordon has reviewed this new site for affects to cultural resources and has determined that there will be **no adverse affect** on National Register eligible historic properties. Please review the revised Environmental Assessment per the attached Notice of Availability (NOA). Please provide any comments you have and advise me whether you agree with our determination. Correspondence will need to be received withing 30 days of receipt of this letter.

Please review the Draft Finding of No Signifigant Impact and the Draft Final EA. The enclosed NOA has the information for our website where the document is located for your review. All comments or questions should be submitted via the information and referenced email address within the NOA. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy

robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact Mr. Robert Drumm of Fort Gordon's Natural Resources Management Branch at (706) 791-6374.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

October 8, 2013

Robert Drumm
US Army Garrison, Fort Gordon
Directorate of Public Works
IMGO-PWE, Building 14500
Fort Gordon, Georgia 30905
Robert.l.drumm6.civ@mail.mil

RE: Fort Gordon: Alternatives for ARCYBER Command and Control Facility
Richmond, Jefferson, McDuffie and Columbia Counties, Georgia
HP-120809-003

Dear Mr. Drumm:

The Historic Preservation Division (HPD) has received additional information concerning the above referenced project. Our comments are offered to assist the Department of the Army and Fort Gordon in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

As previously stated, HPD agrees that the four alternatives considered for the project will have no effect on structures or archaeological sites that are listed in or eligible for listing in the National Register of Historic Places (NRHP). Furthermore, based on the information provided, HPD agrees that the additional alternative site (Site G) will have no adverse effect on historic properties.

Please refer to project number **HP-120809-003** in future correspondence concerning this undertaking. If we may be of further assistance, please contact Jennifer Dixon, Environmental Review Specialist, at Jennifer.dixon@dnr.state.ga.us or (404) 651-6546.

Sincerely,

Elizabeth Shirk

Elizabeth Shirk
Environmental Review Coordinator

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO
ATTENTION OF:

IMGO-PWE

23 September 2013

U.S. Fish and Wildlife Service
Ecological Services Office
Attn: Ms. Debbie Harris
105 Westpark Drive, Suite D
Athens, GA 30606

Reference: *DRAFT FINAL ENVIRONMENTAL ASSESSMENT U.S. ARMY CYBER COMMAND AND CONTROL FACILITY Fort George G. Meade, MD and Fort Gordon, GA, 2013*

Dear Ms. Harris:

Fort Gordon previously notified your office of an Environmental Assessment (EA) for a proposed ARCYBER command and control facility to be located on Fort Gordon, Georgia or Fort George G. Meade, Maryland. Enclosed please find the Notice of Availability (NOA) and information regarding a seventh alternative site (Site G) on Fort Gordon as part of the continued scoping effort for the EA.

The findings in the EA indicate the proposed actions, including the additional site, will be "not likely to adversely affect" any endangered or threatened species. The expected result of the EA is that a Finding of No Signifcant Impact will be signed and finalized. Please provide any comments you have and advise me whether you agree with our determination of not likely to adversely affect threatened or endangered speices. Correspondence will need to be received withing 30 days of receipt of this letter.

Please review the Draft Finding of No Signifigant Impact and the Draft Final EA. The enclosed NOA has the information for our website where the document is located for your review. All comments or questions should be submitted via the information and referenced email address within the NOA. In addition, Fort Gordon respectfully requests that we also be notified, as part of our internal process. Please copy robert.l.drumm6.civ@mail.mil when submitting your comments to the preparers of the EA.

If you have any questions or require additional information regarding Fort Gordon, please do not hesitate to contact Mr. Robert Drumm of Fort Gordon's Natural Resources Management Branch at (706) 791-6374.

Sincerely,

Mr. Robert L. Drumm
Chief, Natural Resources Branch
DPW, ED
Fort Gordon, GA 30909

Enclosures

From: Franks, Maria NAB
To: Drumm, Robert L; Helmlinger, Heidi R CTR (US); Smith, Erica NAB; Ross, Aaron R CIV USARMY ARCYBER (US)
Subject: RE: FW: ARCYBER comments? (UNCLASSIFIED)
Date: Tuesday, October 22, 2013 7:15:04 AM

Classification: UNCLASSIFIED
Caveats: NONE

Fantastic! Thank you!!

-----Original Message-----
From: Drumm, Robert L CIV (US) [mailto:robert.l.drumm6.civ@mail.mil]
Sent: Tuesday, October 22, 2013 7:12 AM
To: Franks, Maria NAB; Helmlinger, Heidi R CTR (US); Smith, Erica NAB; Ross, Aaron R CIV USARMY ARCYBER (US)
Subject: FW: FW: ARCYBER comments? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Comments from USFWS below. They were behind due to furlough.

Robert Drumm
Chief, Natural Resources Branch
Fort Gordon, DPW
706-791-6374 or 706-791-9209
robert.drumm2@us.army.mil

-----Original Message-----
From: Harris, Deborah [mailto:deborah_c_harris@fws.gov]
Sent: Monday, October 21, 2013 4:25 PM
To: Drumm, Robert L CIV (US)
Subject: Re: FW: ARCYBER comments? (UNCLASSIFIED)

I did not have it. But when I got your email I went looking for it and found it in the large stack of documents that had not been logged in or assigned yet due to furlough. I just reviewed it and the Service's response is below. Let me know if you need a hard copy.

"The Fish and Wildlife Service has reviewed the letter and map concerning the US Army Cyber Command and Control Facility, dated September 23, 2013. We concur with your finding that the 7th alternative site on Fort Gordon is not likely to adversely affect any endangered or threatened species.

We believe that the requirements of section 7 of the Endangered Species Act (ESA) have been satisfied. However, obligations under section 7 of the ESA must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner that was not previously considered in this biological evaluation; or (3) a new species is listed or critical habitat determined that may be affected by the identified action."

Sincerely,

Deborah Harris
Fish & Wildlife Biologist

Deborah Harris
U.S. Fish and Wildlife Service
105 Westpark Drive, Suite D
Athens, Georgia 30606
706-613-9493 ext 224
FAX: 706-613-6059
http://www.fws.gov/Athens

On Mon, Oct 21, 2013 at 3:54 PM, Drumm, Robert L CIV (US)
<robert.l.drumm6.civ@mail.mil> wrote:

Classification: UNCLASSIFIED
Caveats: NONE

Debbie,

At the end of September you should have received a letter requesting comment on the Environmental Assessment for Army Cyber Command. Did you get it? And do you have comments on the proposed FNSI?

Attached is your response to the scoping letter. I just wanted to double check that you had not sent anything else.

Thanks

Rob

Robert Drumm
Chief, Natural Resources Branch
Fort Gordon, DPW
706-791-6374
robert.l.drumm6.civ@mail.mil

-----Original Message-----
From: Franks, Maria NAB [mailto:Maria.M.Franks@usace.army.mil]
Sent: Friday, October 18, 2013 10:20 AM
To: Helmlinger, Heidi R CTR (US); Teague, Suzanne M CIV (US); Drumm, Robert L CIV (US); Smith, Erica NAB
Subject: RE: ARCYBER comments? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Great, thank you!

-----Original Message-----
From: Helmlinger, Heidi R CTR (US)
[mailto:heidi.r.helmlinger.ctr@mail.mil]
Sent: Friday, October 18, 2013 9:35 AM
To: Franks, Maria NAB; Teague, Suzanne M CIV (US); Drumm, Robert L; Smith,
Erica NAB
Subject: RE: ARCYBER comments? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Maria,

I don't think it will be necessary to contact USFWS. They are very good
about responding to us. Rob is currently on vacation until Monday. All
comments would go to him, so you will hear from him next week.

v/r,

Heidi Helmlinger
CONTRACTOR
Innovar Environmental Inc.
NEPA Analyst
Fort Gordon, GA
Tel: 706-791-8245

-----Original Message-----
From: Franks, Maria NAB [mailto:Maria.M.Franks@usace.army.mil]
Sent: Friday, October 18, 2013 9:06 AM
To: Teague, Suzanne M CIV (US); Drumm, Robert L CIV (US); Helmlinger, Heidi
R CTR (US); Smith, Erica NAB
Subject: ARCYBER comments? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Good Morning,

ARCYBER asked me to inquire if you have received any additional comments in
response to the NOA. So far, we are only aware of the concurrence received
from the GA SHPO. Please let Erica and me know if there are any others.

Also--Should we follow up with the GA USFWS to make sure we will receive
their comments/concurrence on the new site?

Thanks!
Maria

Classification: UNCLASSIFIED

Legal Notices

Notice of Availability
Draft Final Environmental Assessment (EA)
and Draft Finding of No Significant Impact (FNSI)
U.S. Army Cyber Command and Control Facility
Fort George G. Meade, MD / Fort Gordon, GA

U.S. Army Cyber Command / 2nd Army (ARCYBER) proposes to establish and operate a Command and Control Facility at Fort George G. Meade, Maryland or Fort Gordon, Georgia. The purpose of the Proposed Action is to construct a facility or renovate existing buildings to accommodate a workforce comprised of active duty military, government civilian and contract personnel at one of seven alternative site locations at either Fort Meade or Fort Gordon. The results, as found in the EA, show that the Proposed Action would not have a significant adverse impact on the environment, though the EA does not indicate a Preferred Alternative. At the conclusion of the public comment period, it is anticipated that a FNSI would be appropriate and would be signed for the Proposed Action. An Environmental Impact Statement therefore, is not necessary to implement the Proposed Action.

Copies of the draft EA and draft FNSI are available online at www.ftmeade.army.mil by clicking on the 'Environmental Programs' tab under 'Public Notices' and http://www.gordon.army.mil/dpw/ENV/nepa.htm. The documents can also be found at the following locations: Medal of Honor Memorial Library on Fort Meade; West County Area Library, 1325 Annapolis Road, Odenton, MD; Fort Gordon Public Affairs Office (Building 29801); Woodworth Library (Building 33500) on Fort Gordon; and Richmond County Main (HQ) Public Library, 823 Telfair Street, Augusta, Georgia. Additionally, copies can be obtained by contacting Suzanne Teague, Directorate of Public Works, Environmental Division, 4215 Roberts Avenue, STE 5115, Fort Meade, Maryland 20755 or by phone at 301-677-9155 or by email at suzanne.m.teague.civ@mail.mil or Robert Drumm, Directorate of Public Works, Environmental Division, 527 15th Street, Building 14500, Fort Gordon, Georgia 30905 or by phone at 706-791-6374 or by email at robert.l.drumm6.civ@mail.mil.

Comments on the draft final EA and draft FNSI may be submitted to Ms. Teague or Mr. Drumm no later than 30 days from the publication of this notice.

September 26, 2013 Ad# 16117119

APPENDIX D

TRAFFIC STUDY

(On CD)

APPENDIX E

AIR QUALITY CALCULATIONS
AND
RECORD OF NON-APPLICABILITY (RONA)

–

Army Command and Control Facility - Fort Meade, Maryland

PROPOSED ACTION: CONSTRUCTION EMISSIONS SUMMARY

Estimated Emissions	Emissions (tons/year)							
	CO	**VOC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**
Construction Emissions	1.60	0.38	3.11	0.00	0.27	0.18	334.41	0.03
Operational Emissions (work force commute)	36.89	2.01	3.38	0.05	0.39	0.21	4541.83	0.32
TOTAL =	**38.49**	**2.39**	**6.49**	**0.05**	**0.66**	**0.38**	**4876.24**	**0.35**

PROPOSED ACTION: GHG EMISSIONS SUMMARY

Estimated GHG Emissions Per Construction Phase	Emissions (Metric tons/year)			
	CO_2	**CH_4**	**N_20**	**CO_{2e}**
Construction Emissions	303.37	0.03	0.27	387
Operational Emissions (work force commute)	4120.28	0.29	0.29	4217
TOTAL =	**4423.65**	**0.32**	**0.56**	**4603.77**

Notes:

Conversion to Metrix Tons = 1 short ton = 0.90718474 metric tons

N_20 = NOx * 0.095

$CO_{2e} = (CO_2*1)+ (CH_4*21)+(N_2O*310)$

Construction Equipment Emissions

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Construction Equipment Emissions	Fuel	HP	Load Factor	Emission Factors, g/bhp-hr								No of Equipment	Hrs/day	Months	Emissions, lbs/day								Emissions, tons/year							
				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4
Tractor/Loader/Backhoe	Diesel	108	55	4.07	1.19	7.16	0.007	0.654	0.58206	568.3	0.108	2	4	6	4.26	1.25	7.50	0.01	0.69	0.61	595.38	0.11	0.27	0.08	0.47	0.00	0.04	0.04	37.21	0.01
Dump Truck	Diesel	479	57	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	6	4.38	1.37	13.36	0.01	0.71	0.63	1368.31	0.12	0.27	0.09	0.84	0.00	0.04	0.04	85.52	0.01
Water Truck	Diesel	250	50	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	6	2.01	0.63	6.12	0.01	0.33	0.29	626.45	0.06	0.13	0.04	0.38	0.00	0.02	0.02	39.15	0.00
Excavator	Diesel	168	57	2.19	0.59	6.15	0.006	0.229	0.20381	568.3	0.053	1	4	6	1.85	0.50	5.19	0.01	0.19	0.17	479.91	0.04	0.12	0.03	0.32	0.00	0.01	0.01	29.99	0.00
Compactor	Diesel	8	43	3.47	0.68	4.33	0.009	0.274	0.24386	568.3	0.061	1	4	6	0.11	0.02	0.13	0.00	0.01	0.01	17.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	1.08	0.00
Compressor	Diesel	106	48	4.08	1.32	7.76	0.007	0.686	0.61054	568.3	0.119	1	4	6	1.83	0.59	3.48	0.00	0.31	0.27	254.99	0.05	0.11	0.04	0.22	0.00	0.02	0.02	15.94	0.00
Paver	Diesel	100	62	4.4	1.5	8.75	0.007	0.759	0.67551	568.3	0.135	1	4	6	2.41	0.82	4.78	0.00	0.41	0.37	310.72	0.07	0.15	0.05	0.30	0.00	0.03	0.02	19.42	0.00
Concrete Truck/Pump Truck	Diesel	210	20	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	2	6	0.34	0.11	1.03	0.00	0.05	0.05	105.24	0.01	0.02	0.01	0.06	0.00	0.00	0.00	6.58	0.00
														TOTAL =	**17.18**	**5.28**	**41.60**	**0.04**	**2.70**	**2.40**	**3758.23**	**0.48**	**1.07**	**0.33**	**2.60**	**0.00**	**0.17**	**0.15**	**234.89**	**0.03**

Construction Truck Emissions

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Proj. Construction Trucks	No. of Trucks	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	NO_X Running Exhaust (g/mi)	VOC Running Exhaust (g/mi)	SOx Running Exhaust (g/mi)	PM10 Running Exhaust (g/mi)	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CH4 Running Exhaust (g/mi)
Heavy-duty diesel trucks	5	27	40	6.303	17.209	1.262	0.019	0.713	0.036	0.028	0.656	0.009	0.012	1992.669	0.059

Emissions, lbs/day								Emissions, tons/year							
CO	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**CO**	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
2.78	7.59	0.56	0.01	0.34	0.30	878.62	0.03	0.17	0.47	0.03	0.00	0.02	0.02	54.91	0.00
							TOTAL =	**0.17**	**0.47**	**0.03**	**0.00**	**0.02**	**0.02**	**54.91**	**0.00**

Unpaved Road Emissions		**PM10**	**PM2.5**
E = k(s/12)^a(W/3)^b	k	1.5	0.15
Assume s = 8.5	a	0.9	0.9
Assume W = 10	b	0.45	0.45
Assume 5 miles of travel per vehicle per day			
Emission Factor		1.890604	0.18906
Control Efficiency		61%	61%
Emissions, lbs/day		1.263056	0.11005
Emissions, tons/year =		**0.08**	**0.01**

Construction Worker Personal Vehicle Emissions

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle-day)	CO		NO_X		VOCs					
				Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Hot-Soak (g/trip)	Resting Loss (g/hr)	Running Evaporative (g/mi)	Diurnal Evaporative (g/hr)
Light-duty truck, catalyst	20	33	40	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054

Vehicle Class	SOx		PM10				PM2.5				CO2		CH4	
	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]
Light-duty truck, catalyst	0.004	0.002	0.013	0.016	0.008	0.013	0.011	0.014	0.002	0.005	399.538	203.967	0.027	0.046

Emissions, lbs/day								Emissions, tons/year							
CO	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**CO**	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
5.65	0.53	0.26	0.01	0.06	0.03	713.7	0.05	0.35	0.03	0.02	0.00	0.00	0.00	44.60	0.00
							TOTAL =	**0.35**	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**44.60**	**0.00**

Work Force Commute - Personal Vehicle Emissions

Note: 1) Annual operational emissions is assumed to be 12 months total (260 days subtracting weekends).

2) For purposes of providing a conservative air quality analysis, all personal vehicles were assumed to be gasoline powered light-duty trucks.

3) Vehicle miles traveled per day was conservativly estimated to be 30 miles per day.

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle-day)	CO		NO_X		VOCs					
				Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Hot-Soak (g/trip)	Resting Loss (g/hr)	Running Evaporative (g/mi)	Diurnal Evaporative (g/hr)
Light-duty truck, catalyst	1,300	33	30	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054

Vehicle Class	SOx		PM10				PM2.5				CO2		CH4	
	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]
Light-duty truck, catalyst	0.004	0.002	0.013	0.016	0.008	0.013	0.011	0.014	0.002	0.005	399.538	203.967	0.027	0.046

Emissions, lbs/day								Emissions, tons/year							
CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4
283.76	26.02	15.44	0.35	2.97	1.59	34937.1	2.45	36.89	3.38	2.01	0.05	0.39	0.21	4541.83	0.32
							TOTAL =	**36.89**	**3.38**	**2.01**	**0.05**	**0.39**	**0.21**	**4541.83**	**0.32**

Army Command and Control Facility - Fort Gordon, Georgia

PROPOSED ACTION: CONSTRUCTION EMISSIONS SUMMARY

Estimated Emissions	Emissions (tons/year)							
	CO	VOC	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4
Alternative C Construction Emissions	1.60	0.38	3.11	0.00	0.27	0.18	334.41	0.03
Alternative D Construction Emissions	1.34	0.32	2.61	0.00	0.23	0.15	280.90	0.03
Alternative E Construction Emissions	0.90	0.21	1.74	0.00	0.15	0.10	187.27	0.02
Alternative F Construction Emissions	1.60	0.38	3.11	0.00	0.27	0.18	334.41	0.03
Alternative G Construction Emissions	1.60	0.38	3.11	0.00	0.27	0.18	334.41	0.03
Operational Emissions (work force commute)	42.56	2.32	3.90	0.05	0.45	0.24	5240.57	0.37
TOTAL =	**44.17**	**2.70**	**7.01**	**0.06**	**0.72**	**0.42**	**5574.98**	**0.40**

PROPOSED ACTION: GHG EMISSIONS SUMMARY

Estimated GHG Emissions Per Construction Phase	Emissions (Metric tons/year)			
	CO_2	CH_4	N_20	CO_{2e}
Alternative C Construction Emissions	303.37	0.03	0.27	387
Alternative D Construction Emissions	254.83	0.03	0.22	325
Alternative E Construction Emissions	169.89	0.02	0.15	217
Alternative F Construction Emissions	303.37	0.03	0.27	387
Alternative G Construction Emissions	303.37	0.03	0.27	387
Operational Emissions (work force commute)	4754.17	0.33	0.34	4865
TOTAL =	**6088.99**	**0.47**	**1.51**	**6568.43**

Notes:

Conversion to Metrix Tons = 1 short ton = 0.90718474 metric tons

N_20 = NOx * 0.095

$CO_{2e} = (CO_2*1)+ (CH_4*21)+(N_2O*310)$

Construction Equipment Emissions - Alternative C

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Construction Equipment Emissions	Fuel	HP	Load Factor	Emission Factors, g/bhp-hr								No of Equipment	Hrs/day	Months	Emissions, lbs/day								Emissions, tons/year							
				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4
Tractor/Loader/Backhoe	Diesel	108	55	4.07	1.19	7.16	0.007	0.654	0.58206	568.3	0.108	2	4	6	4.26	1.25	7.50	0.01	0.69	0.61	595.38	0.11	0.27	0.08	0.47	0.00	0.04	0.04	37.21	0.01
Dump Truck	Diesel	479	57	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	6	4.38	1.37	13.36	0.01	0.71	0.63	1368.31	0.12	0.27	0.09	0.84	0.00	0.04	0.04	85.52	0.01
Water Truck	Diesel	250	50	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	6	2.01	0.63	6.12	0.01	0.33	0.29	626.45	0.06	0.13	0.04	0.38	0.00	0.02	0.02	39.15	0.00
Excavator	Diesel	168	57	2.19	0.59	6.15	0.006	0.229	0.20381	568.3	0.053	1	4	6	1.85	0.50	5.19	0.01	0.19	0.17	479.91	0.04	0.12	0.03	0.32	0.00	0.01	0.01	29.99	0.00
Compactor	Diesel	8	43	3.47	0.68	4.33	0.009	0.274	0.24386	568.3	0.061	1	4	6	0.11	0.02	0.13	0.00	0.01	0.01	17.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	1.08	0.00
Compressor	Diesel	106	48	4.08	1.32	7.76	0.007	0.686	0.61054	568.3	0.119	1	4	6	1.83	0.59	3.48	0.00	0.31	0.27	254.99	0.05	0.11	0.04	0.22	0.00	0.02	0.02	15.94	0.00
Paver	Diesel	100	62	4.4	1.5	8.75	0.007	0.759	0.67551	568.3	0.135	1	4	6	2.41	0.82	4.78	0.00	0.41	0.37	310.72	0.07	0.15	0.05	0.30	0.00	0.03	0.02	19.42	0.00
Concrete Truck/Pump Truck	Diesel	210	20	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	2	6	0.34	0.11	1.03	0.00	0.05	0.05	105.24	0.01	0.02	0.01	0.06	0.00	0.00	0.00	6.58	0.00
														TOTAL =	**17.18**	**5.28**	**41.60**	**0.04**	**2.70**	**2.40**	**3758.23**	**0.48**	**1.07**	**0.33**	**2.60**	**0.00**	**0.17**	**0.15**	**234.89**	**0.03**

Construction Equipment Emissions - Alternative D

Note: Construction duration is assumed to be 5 months total (105 days subtracting weekends and holidays).

Construction Equipment Emissions	Fuel	HP	Load Factor	Emission Factors, g/bhp-hr								No of Equipment	Hrs/day	Months	Emissions, lbs/day								Emissions, tons/year							
				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4
Tractor/Loader/Backhoe	Diesel	108	55	4.07	1.19	7.16	0.007	0.654	0.58206	568.3	0.108	2	4	5	4.26	1.25	7.50	0.01	0.69	0.61	595.38	0.11	0.22	0.07	0.39	0.00	0.04	0.03	31.26	0.01
Dump Truck	Diesel	479	57	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	5	4.38	1.37	13.36	0.01	0.71	0.63	1368.31	0.12	0.23	0.07	0.70	0.00	0.04	0.03	71.84	0.01
Water Truck	Diesel	250	50	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	5	2.01	0.63	6.12	0.01	0.33	0.29	626.45	0.06	0.11	0.03	0.32	0.00	0.02	0.02	32.89	0.00
Excavator	Diesel	168	57	2.19	0.59	6.15	0.006	0.229	0.20381	568.3	0.053	1	4	5	1.85	0.50	5.19	0.01	0.19	0.17	479.91	0.04	0.10	0.03	0.27	0.00	0.01	0.01	25.20	0.00
Compactor	Diesel	8	43	3.47	0.68	4.33	0.009	0.274	0.24386	568.3	0.061	1	4	5	0.11	0.02	0.13	0.00	0.01	0.01	17.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.91	0.00
Compressor	Diesel	106	48	4.08	1.32	7.76	0.007	0.686	0.61054	568.3	0.119	1	4	5	1.83	0.59	3.48	0.00	0.31	0.27	254.99	0.05	0.10	0.03	0.18	0.00	0.02	0.01	13.39	0.00
Paver	Diesel	100	62	4.4	1.5	8.75	0.007	0.759	0.67551	568.3	0.135	1	4	5	2.41	0.82	4.78	0.00	0.41	0.37	310.72	0.07	0.13	0.04	0.25	0.00	0.02	0.02	16.31	0.00
Concrete Truck/Pump Truck	Diesel	210	20	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	2	5	0.34	0.11	1.03	0.00	0.05	0.05	105.24	0.01	0.02	0.01	0.05	0.00	0.00	0.00	5.53	0.00
														TOTAL =	**17.18**	**5.28**	**41.60**	**0.04**	**2.70**	**2.40**	**3758.23**	**0.48**	**0.90**	**0.28**	**2.18**	**0.00**	**0.14**	**0.13**	**197.31**	**0.02**

Construction Equipment Emissions - Alternative E

Note: Construction duration is assumed to be 3 months total (70 days subtracting weekends and holidays).

Construction Equipment Emissions	Fuel	HP	Load Factor	Emission Factors, g/bhp-hr								No of Equipment	Hrs/day	Months	Emissions, lbs/day								Emissions, tons/year							
				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4
Tractor/Loader/Backhoe	Diesel	108	55	4.07	1.19	7.16	0.007	0.654	0.58206	568.3	0.108	2	4	3	4.26	1.25	7.50	0.01	0.69	0.61	595.38	0.11	0.15	0.04	0.26	0.00	0.02	0.02	20.84	0.00
Dump Truck	Diesel	479	57	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	3	4.38	1.37	13.36	0.01	0.71	0.63	1368.31	0.12	0.15	0.05	0.47	0.00	0.02	0.02	47.89	0.00
Water Truck	Diesel	250	50	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	3	2.01	0.63	6.12	0.01	0.33	0.29	626.45	0.06	0.07	0.02	0.21	0.00	0.01	0.01	21.93	0.00
Excavator	Diesel	168	57	2.19	0.59	6.15	0.006	0.229	0.20381	568.3	0.053	1	4	3	1.85	0.50	5.19	0.01	0.19	0.17	479.91	0.04	0.06	0.02	0.18	0.00	0.01	0.01	16.80	0.00
Compactor	Diesel	8	43	3.47	0.68	4.33	0.009	0.274	0.24386	568.3	0.061	1	4	3	0.11	0.02	0.13	0.00	0.01	0.01	17.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00
Compressor	Diesel	106	48	4.08	1.32	7.76	0.007	0.686	0.61054	568.3	0.119	1	4	3	1.83	0.59	3.48	0.00	0.31	0.27	254.99	0.05	0.06	0.02	0.12	0.00	0.01	0.01	8.92	0.00
Paver	Diesel	100	62	4.4	1.5	8.75	0.007	0.759	0.67551	568.3	0.135	1	4	3	2.41	0.82	4.78	0.00	0.41	0.37	310.72	0.07	0.08	0.03	0.17	0.00	0.01	0.01	10.88	0.00
Concrete Truck/Pump Truck	Diesel	210	20	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	2	3	0.34	0.11	1.03	0.00	0.05	0.05	105.24	0.01	0.01	0.00	0.04	0.00	0.00	0.00	3.68	0.00
														TOTAL =	**17.18**	**5.28**	**41.60**	**0.04**	**2.70**	**2.40**	**3758.23**	**0.48**	**0.60**	**0.18**	**1.46**	**0.00**	**0.09**	**0.08**	**131.54**	**0.02**

Construction Equipment Emissions - Alternative F

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Construction Equipment Emissions	Fuel	HP	Load Factor	Emission Factors, g/bhp-hr								No of Equipment	Hrs/day	Months	Emissions, lbs/day								Emissions, tons/year							
				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4
Tractor/Loader/Backhoe	Diesel	108	55	4.07	1.19	7.16	0.007	0.654	0.58206	568.3	0.108	2	4	6	4.26	1.25	7.50	0.01	0.69	0.61	595.38	0.11	0.27	0.08	0.47	0.00	0.04	0.04	37.21	0.01
Dump Truck	Diesel	479	57	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	6	4.38	1.37	13.36	0.01	0.71	0.63	1368.31	0.12	0.27	0.09	0.84	0.00	0.04	0.04	85.52	0.01
Water Truck	Diesel	250	50	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	6	2.01	0.63	6.12	0.01	0.33	0.29	626.45	0.06	0.13	0.04	0.38	0.00	0.02	0.02	39.15	0.00
Excavator	Diesel	168	57	2.19	0.59	6.15	0.006	0.229	0.20381	568.3	0.053	1	4	6	1.85	0.50	5.19	0.01	0.19	0.17	479.91	0.04	0.12	0.03	0.32	0.00	0.01	0.01	29.99	0.00
Compactor	Diesel	8	43	3.47	0.68	4.33	0.009	0.274	0.24386	568.3	0.061	1	4	6	0.11	0.02	0.13	0.00	0.01	0.01	17.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	1.08	0.00
Compressor	Diesel	106	48	4.08	1.32	7.76	0.007	0.686	0.61054	568.3	0.119	1	4	6	1.83	0.59	3.48	0.00	0.31	0.27	254.99	0.05	0.11	0.04	0.22	0.00	0.02	0.02	15.94	0.00
Paver	Diesel	100	62	4.4	1.5	8.75	0.007	0.759	0.67551	568.3	0.135	1	4	6	2.41	0.82	4.78	0.00	0.41	0.37	310.72	0.07	0.15	0.05	0.30	0.00	0.03	0.02	19.42	0.00
Concrete Truck/Pump Truck	Diesel	210	20	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	2	6	0.34	0.11	1.03	0.00	0.05	0.05	105.24	0.01	0.02	0.01	0.06	0.00	0.00	0.00	6.58	0.00
														TOTAL =	**17.18**	**5.28**	**41.60**	**0.04**	**2.70**	**2.40**	**3758.23**	**0.48**	**1.07**	**0.33**	**2.60**	**0.00**	**0.17**	**0.15**	**234.89**	**0.03**

Construction Equipment Emissions - Alternative G

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Construction Equipment Emissions	Fuel	HP	Load Factor	Emission Factors, g/bhp-hr								No of Equipment	Hrs/day	Months	Emissions, lbs/day								Emissions, tons/year							
				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4
Tractor/Loader/Backhoe	Diesel	108	55	4.07	1.19	7.16	0.007	0.654	0.58206	568.3	0.108	2	4	6	4.26	1.25	7.50	0.01	0.69	0.61	595.38	0.11	0.27	0.08	0.47	0.00	0.04	0.04	37.21	0.01
Dump Truck	Diesel	479	57	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	6	4.38	1.37	13.36	0.01	0.71	0.63	1368.31	0.12	0.27	0.09	0.84	0.00	0.04	0.04	85.52	0.01
Water Truck	Diesel	250	50	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	4	6	2.01	0.63	6.12	0.01	0.33	0.29	626.45	0.06	0.13	0.04	0.38	0.00	0.02	0.02	39.15	0.00
Excavator	Diesel	168	57	2.19	0.59	6.15	0.006	0.229	0.20381	568.3	0.053	1	4	6	1.85	0.50	5.19	0.01	0.19	0.17	479.91	0.04	0.12	0.03	0.32	0.00	0.01	0.01	29.99	0.00
Compactor	Diesel	8	43	3.47	0.68	4.33	0.009	0.274	0.24386	568.3	0.061	1	4	6	0.11	0.02	0.13	0.00	0.01	0.01	17.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	1.08	0.00
Compressor	Diesel	106	48	4.08	1.32	7.76	0.007	0.686	0.61054	568.3	0.119	1	4	6	1.83	0.59	3.48	0.00	0.31	0.27	254.99	0.05	0.11	0.04	0.22	0.00	0.02	0.02	15.94	0.00
Paver	Diesel	100	62	4.4	1.5	8.75	0.007	0.759	0.67551	568.3	0.135	1	4	6	2.41	0.82	4.78	0.00	0.41	0.37	310.72	0.07	0.15	0.05	0.30	0.00	0.03	0.02	19.42	0.00
Concrete Truck/Pump Truck	Diesel	210	20	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	1	2	6	0.34	0.11	1.03	0.00	0.05	0.05	105.24	0.01	0.02	0.01	0.06	0.00	0.00	0.00	6.58	0.00
														TOTAL =	**17.18**	**5.28**	**41.60**	**0.04**	**2.70**	**2.40**	**3758.23**	**0.48**	**1.07**	**0.33**	**2.60**	**0.00**	**0.17**	**0.15**	**234.89**	**0.03**

Construction Truck Emissions - Alternative C

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Proj. Construction Trucks	No. of Trucks	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	NO_X Running Exhaust (g/mi)	VOC Running Exhaust (g/mi)	SOx Running Exhaust (g/mi)	PM10 Running Exhaust (g/mi)	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CH4 Running Exhaust (g/mi)
Heavy-duty diesel trucks	5	27	40	6.303	17.209	1.262	0.019	0.713	0.036	0.028	0.656	0.009	0.012	1992.669	0.059

Emissions, lbs/day								Emissions, tons/year							
CO	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**CO**	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
2.78	7.59	0.56	0.01	0.34	0.30	878.62	0.03	0.17	0.47	0.03	0.00	0.02	0.02	54.91	0.00
							TOTAL =	**0.17**	**0.47**	**0.03**	**0.00**	**0.02**	**0.02**	**54.91**	**0.00**

Unpaved Road Emissions		PM10	PM2.5
E = k(s/12)^a(W/3)^b	k	1.5	0.15
Assume s = 8.5	a	0.9	0.9
Assume W = 10	b	0.45	0.45
Assume 5 miles of travel per vehicle per day			
Emission Factor		1.890604	0.18906
Control Efficiency		61%	61%
Emissions, lbs/day		1.263056	0.11005
Emissions, tons/year =		**0.08**	**0.01**

Construction Truck Emissions - Alternative D

Note: Construction duration is assumed to be 5 months total (105 days subtracting weekends and holidays).

Proj. Construction Trucks	No. of Trucks	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	NO_X Running Exhaust (g/mi)	VOC Running Exhaust (g/mi)	SOx Running Exhaust (g/mi)	PM10 Running Exhaust (g/mi)	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CH4 Running Exhaust (g/mi)
Heavy-duty diesel trucks	5	27	40	6.303	17.209	1.262	0.019	0.713	0.036	0.028	0.656	0.009	0.012	1992.669	0.059

Emissions, lbs/day								Emissions, tons/year							
CO	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**CO**	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
2.78	7.59	0.56	0.01	0.34	0.30	878.62	0.03	0.15	0.40	0.03	0.00	0.02	0.02	46.13	0.00
							TOTAL =	**0.15**	**0.40**	**0.03**	**0.00**	**0.02**	**0.02**	**46.13**	**0.00**

Unpaved Road Emissions		PM10	PM2.5
E = k(s/12)^a(W/3)^b	k	1.5	0.15
Assume s = 8.5	a	0.9	0.9
Assume W = 10	b	0.45	0.45
Assume 5 miles of travel per vehicle per day			
Emission Factor		1.890604	0.18906
Control Efficiency		61%	61%
Emissions, lbs/day		1.263056	0.11005
Emissions, tons/year =		**0.07**	**0.01**

Construction Truck Emissions - Alternative E

Note: Construction duration is assumed to be 3 months total (70 days subtracting weekends and holidays).

Proj. Construction Trucks	No. of Trucks	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	NO_X Running Exhaust (g/mi)	VOC Running Exhaust (g/mi)	SOx Running Exhaust (g/mi)	PM10 Running Exhaust (g/mi)	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CH4 Running Exhaust (g/mi)
Heavy-duty diesel trucks	5	27	40	6.303	17.209	1.262	0.019	0.713	0.036	0.028	0.656	0.009	0.012	1992.669	0.059

Emissions, lbs/day								Emissions, tons/year							
CO	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**CO**	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
2.78	7.59	0.56	0.01	0.34	0.30	878.62	0.03	0.10	0.27	0.02	0.00	0.01	0.01	30.75	0.00
							TOTAL =	**0.10**	**0.27**	**0.02**	**0.00**	**0.01**	**0.01**	**30.75**	**0.00**

Unpaved Road Emissions		PM10	PM2.5
E = k(s/12)^a(W/3)^b	k	1.5	0.15
Assume s = 8.5	a	0.9	0.9
Assume W = 10	b	0.45	0.45
Assume 5 miles of travel per vehicle per day			
Emission Factor		1.890604	0.18906
Control Efficiency		61%	61%
Emissions, lbs/day		1.263056	0.11005
Emissions, tons/year =		**0.04**	**0.00**

Construction Truck Emissions - Alternative F

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Proj. Construction Trucks	No. of Trucks	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	NO_X Running Exhaust (g/mi)	VOC Running Exhaust (g/mi)	SOx Running Exhaust (g/mi)	PM10 Running Exhaust (g/mi)	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CH4 Running Exhaust (g/mi)
Heavy-duty diesel trucks	5	27	40	6.303	17.209	1.262	0.019	0.713	0.036	0.028	0.656	0.009	0.012	1992.669	0.059

Emissions, lbs/day								Emissions, tons/year							
CO	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**CO**	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
2.78	7.59	0.56	0.01	0.34	0.30	878.62	0.03	0.17	0.47	0.03	0.00	0.02	0.02	54.91	0.00
							TOTAL =	**0.17**	**0.47**	**0.03**	**0.00**	**0.02**	**0.02**	**54.91**	**0.00**

Unpaved Road Emissions		PM10	PM2.5
E = k(s/12)^a(W/3)^b	k	1.5	0.15
Assume s = 8.5	a	0.9	0.9
Assume W = 10	b	0.45	0.45
Assume 5 miles of travel per vehicle per day			
Emission Factor		1.890604	0.18906
Control Efficiency		61%	61%
Emissions, lbs/day		1.263056	0.11005
Emissions, tons/year =		**0.08**	**0.01**

Construction Truck Emissions - Alternative G

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Proj. Construction Trucks	No. of Trucks	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	NO_X Running Exhaust (g/mi)	VOC Running Exhaust (g/mi)	SOx Running Exhaust (g/mi)	PM10 Running Exhaust (g/mi)	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CH4 Running Exhaust (g/mi)
Heavy-duty diesel trucks	5	27	40	6.303	17.209	1.262	0.019	0.713	0.036	0.028	0.656	0.009	0.012	1992.669	0.059

Emissions, lbs/day								Emissions, tons/year							
CO	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**CO**	**NOx**	**VOCs**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
2.78	7.59	0.56	0.01	0.34	0.30	878.62	0.03	0.17	0.47	0.03	0.00	0.02	0.02	54.91	0.00
							TOTAL =	**0.17**	**0.47**	**0.03**	**0.00**	**0.02**	**0.02**	**54.91**	**0.00**

Unpaved Road Emissions		PM10	PM2.5
E = k(s/12)^a(W/3)^b	k	1.5	0.15
Assume s = 8.5	a	0.9	0.9
Assume W = 10	b	0.45	0.45
Assume 5 miles of travel per vehicle per day			
Emission Factor		1.890604	0.18906
Control Efficiency		61%	61%
Emissions, lbs/day		1.263056	0.11005
Emissions, tons/year =		**0.08**	**0.01**

Construction Worker Personal Vehicle Emissions - Alternative C

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	CO Start-Up (g/start)[a]	NO_X Running Exhaust (g/mi)	NO_X Start-Up (g/start)[a]	VOCs Running Exhaust (g/mi)	VOCs Start-Up (g/start)[a]	VOCs Hot-Soak (g/trip)	VOCs Resting Loss (g/hr)	VOCs Running Evaporative (g/mi)	VOCs Diurnal Evaporative (g/hr)
Light-duty truck, catalyst	20	33	40	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054

Vehicle Class	SOx Running Exhaust (g/mi)	SOx Start-Up (g/start)[a]	PM10 Running Exhaust (g/mi)	PM10 Start-Up (g/start)[a]	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Start-Up (g/start)[a]	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CO2 Start-Up (g/start)[a]	CH4 Running Exhaust (g/mi)	CH4 Start-Up (g/start)[a]
Light-duty truck, catalyst	0.004	0.002	0.013	0.016	0.008	0.013	0.011	0.014	0.002	0.005	399.538	203.967	0.027	0.046

Emissions, lbs/day								Emissions, tons/year							
CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4
5.65	0.53	0.26	0.01	0.06	0.03	713.7	0.05	0.35	0.03	0.02	0.00	0.00	0.00	44.60	0.00
							TOTAL =	**0.35**	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**44.60**	**0.00**

Construction Worker Personal Vehicle Emissions - Alternative D

Note: Construction duration is assumed to be 5 months total (105 days subtracting weekends and holidays).

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	CO Start-Up (g/start)[a]	NO_X Running Exhaust (g/mi)	NO_X Start-Up (g/start)[a]	VOCs Running Exhaust (g/mi)	VOCs Start-Up (g/start)[a]	VOCs Hot-Soak (g/trip)	VOCs Resting Loss (g/hr)	VOCs Running Evaporative (g/mi)	VOCs Diurnal Evaporative (g/hr)
Light-duty truck, catalyst	20	33	40	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054

Vehicle Class	SOx Running Exhaust (g/mi)	SOx Start-Up (g/start)[a]	PM10 Running Exhaust (g/mi)	PM10 Start-Up (g/start)[a]	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Start-Up (g/start)[a]	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CO2 Start-Up (g/start)[a]	CH4 Running Exhaust (g/mi)	CH4 Start-Up (g/start)[a]
Light-duty truck, catalyst	0.004	0.002	0.013	0.016	0.008	0.013	0.011	0.014	0.002	0.005	399.538	203.967	0.027	0.046

Emissions, lbs/day								Emissions, tons/year							
CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4
5.65	0.53	0.26	0.01	0.06	0.03	713.7	0.05	0.30	0.03	0.01	0.00	0.00	0.00	37.47	0.00
							TOTAL =	**0.30**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**37.47**	**0.00**

Construction Worker Personal Vehicle Emissions - Alternative E

Note: Construction duration is assumed to be 3 months total (70 days subtracting weekends and holidays).

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	CO Start-Up (g/start)[a]	NO_X Running Exhaust (g/mi)	NO_X Start-Up (g/start)[a]	VOCs Running Exhaust (g/mi)	VOCs Start-Up (g/start)[a]	VOCs Hot-Soak (g/trip)	VOCs Resting Loss (g/hr)	VOCs Running Evaporative (g/mi)	VOCs Diurnal Evaporative (g/hr)
Light-duty truck, catalyst	20	33	40	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054

Vehicle Class	SOx Running Exhaust (g/mi)	SOx Start-Up (g/start)[a]	PM10 Running Exhaust (g/mi)	PM10 Start-Up (g/start)[a]	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Start-Up (g/start)[a]	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CO2 Start-Up (g/start)[a]	CH4 Running Exhaust (g/mi)	CH4 Start-Up (g/start)[a]
Light-duty truck, catalyst	0.004	0.002	0.013	0.016	0.008	0.013	0.011	0.014	0.002	0.005	399.538	203.967	0.027	0.046

Emissions, lbs/day								Emissions, tons/year							
CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4
5.65	0.53	0.26	0.01	0.06	0.03	713.7	0.05	0.20	0.02	0.01	0.00	0.00	0.00	24.98	0.00
							TOTAL =	**0.20**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**24.98**	**0.00**

Construction Worker Personal Vehicle Emissions - Alternative F

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	CO Start-Up (g/start)[a]	NO_X Running Exhaust (g/mi)	NO_X Start-Up (g/start)[a]	VOCs Running Exhaust (g/mi)	VOCs Start-Up (g/start)[a]	VOCs Hot-Soak (g/trip)	VOCs Resting Loss (g/hr)	VOCs Running Evaporative (g/mi)	VOCs Diurnal Evaporative (g/hr)
Light-duty truck, catalyst	20	33	40	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054

Vehicle Class	SOx Running Exhaust (g/mi)	SOx Start-Up (g/start)[a]	PM10 Running Exhaust (g/mi)	PM10 Start-Up (g/start)[a]	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Start-Up (g/start)[a]	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CO2 Start-Up (g/start)[a]	CH4 Running Exhaust (g/mi)	CH4 Start-Up (g/start)[a]
Light-duty truck, catalyst	0.004	0.002	0.013	0.016	0.008	0.013	0.011	0.014	0.002	0.005	399.538	203.967	0.027	0.046

Emissions, lbs/day								Emissions, tons/year							
CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4
5.65	0.53	0.26	0.01	0.06	0.03	713.7	0.05	0.35	0.03	0.02	0.00	0.00	0.00	44.60	0.00
							TOTAL =	**0.35**	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**44.60**	**0.00**

Construction Worker Personal Vehicle Emissions - Alternative G

Note: Construction duration is assumed to be 6 months total (125 days subtracting weekends and holidays).

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	CO Start-Up (g/start)[a]	NO_X Running Exhaust (g/mi)	NO_X Start-Up (g/start)[a]	VOCs Running Exhaust (g/mi)	VOCs Start-Up (g/start)[a]	VOCs Hot-Soak (g/trip)	VOCs Resting Loss (g/hr)	VOCs Running Evaporative (g/mi)	VOCs Diurnal Evaporative (g/hr)
Light-duty truck, catalyst	20	33	40	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054

Vehicle Class	SOx Running Exhaust (g/mi)	SOx Start-Up (g/start)[a]	PM10 Running Exhaust (g/mi)	PM10 Start-Up (g/start)[a]	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Start-Up (g/start)[a]	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CO2 Start-Up (g/start)[a]	CH4 Running Exhaust (g/mi)	CH4 Start-Up (g/start)[a]
Light-duty truck, catalyst	0.004	0.002	0.013	0.016	0.008	0.013	0.011	0.014	0.002	0.005	399.538	203.967	0.027	0.046

Emissions, lbs/day								Emissions, tons/year							
CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4
5.65	0.53	0.26	0.01	0.06	0.03	713.7	0.05	0.35	0.03	0.02	0.00	0.00	0.00	44.60	0.00
							TOTAL =	**0.35**	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**44.60**	**0.00**

Work Force Commute - Personal Vehicle Emissions

Note: 1) Annual operational emissions is assumed to be 12 months total (260 days subtracting weekends).

2) For purposes of providing a conservative air quality analysis, all personal vehicles were assumed to be gasoline powered light-duty trucks.

3) Vehicle miles traveled per day was conservativly estimated to be 30 miles per day.

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle-day)	CO		NO_X		VOCs					
				Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Hot-Soak (g/trip)	Resting Loss (g/hr)	Running Evaporative (g/mi)	Diurnal Evaporative (g/hr)
Light-duty truck, catalyst	1,500	33	30	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054

Vehicle Class	SOx		PM10				PM2.5				CO2		CH4	
	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start)[a]	Running Exhaust (g/mi)	Start-Up (g/start)[a]
Light-duty truck, catalyst	0.004	0.002	0.013	0.016	0.008	0.013	0.011	0.014	0.002	0.005	399.538	203.967	0.027	0.046

Emissions, lbs/day								Emissions, tons/year							
CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4
327.42	30.03	17.82	0.40	3.43	1.83	40312.1	2.83	42.56	3.90	2.32	0.05	0.45	0.24	5240.57	0.37
							TOTAL =	**42.56**	**3.90**	**2.32**	**0.05**	**0.45**	**0.24**	**5240.57**	**0.37**

APPENDIX F

ARCYBER
SOCIOECONOMIC REPORT

ARCYBER Socioeconomic Report

March 2013

ACRONYMS AND ABBREVIATIONS

ARCYBER	Army Cyber
EA	Environmental Assessment
IMPLAN	Impact Analysis for Planning
NAICS	North American Industry Classification System
ROI	Region of Influence
U.S.	United States

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EXECUTIVE SUMMARY

The United States (U.S.) Army Cyber Command (ARCYBER) is proposing to construct and operate a command and control facility that would be located at Fort Meade in Anne Arundel County, Maryland or at Fort Gordon in Richmond County, Georgia (with portions of the Fort extending into Jefferson, Columbia, and McDuffie Counties).

Anne Arundel County was selected as the ROI for the Fort Meade alternatives and even though Fort Gordon extends into other counties, Richmond County was selected as the ROI for the Fort Gordon alternatives. The decision to use Richmond County, singularly, was made for two reasons. First, the proposed site locations are located within the cantonment area, which is within Richmond County. Secondly, Augusta is the largest nearby economic hub and is also within Richmond County. Fort Gordon's training areas are located in counties other than Richmond County and personnel working at Fort Gordon live in several surrounding counties. The induced impacts presented in this report would flow outside of Richmond County.

The purpose of this socioeconomic report is to provide estimates of the potential economic impacts of the proposed project on the economic conditions of the counties that would potentially host the facility. Analysis in this socioeconomic report quantifies economic impacts that would be generated by three potential alternatives: 1) a new facility at Fort Meade, 2) a new facility at Fort Gordon, and 3) a renovated facility at Fort Gordon.

This socioeconomic report was prepared using the most current and best available data. Primary data were provided by ARCYBER and the Impact Analysis for Planning (IMPLAN) model (MIG 2012). IMPLAN, a standard tool for estimating economic impacts, was used to generate estimates of economic impacts. The impact analysis, however, is essentially a snapshot in time; ongoing planning, scheduling, and federal legislative activities could result in changes to various input assumptions and therefore to the impact conclusions as well.

The socioeconomic report was prepared as a stand-alone study to the ARCYBER Environmental Assessment (EA) for the proposed construction and operations of ARCYBER at either Fort Meade or at Fort Gordon. The socioeconomic analysis quantifies the following types of impacts on the two proposed locations:

- Jobs,
- Labor Income, and
- Economic Output.

Impacts are presented on a year-by-year basis and both *construction* and *operational* activities are considered. It is currently expected that for each alternative construction would begin in 2015 and be completed in 2017. For a portion of 2017 construction and operational activities would occur simultaneously, as construction winds down and operations ramp up. Operations would be expected to begin, at a low level of capacity, in 2017, subject to the completion of portions of construction. During 2018, it would be expected that construction would be completed and operations would be ramping-up to reach full capacity by year end. The year 2019 would be expected to be the first full year at full

operations; this year represents the first year of *steady-state* operations. The phasing considered in this socioeconomic report is summarized, in Table ES-1, as follows:

Table ES-1. Construction and Operations Timeline

Year	Construction	Operations
2015	Construction start	None
2016	Continuing construction	None
2017	Construction end	Start-up operations
2018	None	Operations ramp-up (reach full operations by year end)
2019	None	Entire year at full operations (first year of steady-state)

Economic Impact Summary Results

Table ES-2 shows the steady-state impacts for each alternative; steady-state impacts would be expected to begin in the year 2019. Impacts shown in Table ES-2 are total impacts (including direct plus indirect/induced impacts).

Table ES-2. Total Economic Impacts[1] at Steady-State[2] Operations

	Jobs	Labor Income	Economic Output
Anne Arundel County			
Fort Meade	2,286	$173,696,002	$328,349,665
Richmond County			
Fort Gordon (New Construction)	2,029	$154,331,368	$287,803,673
Fort Gordon (Renovation)	2,033	$154,532,046	$288,320,113

Note[1]: Estimates measured in currency are presented in 2014 constant dollars.
Note[2]: Steady-state operations would be expected to begin in 2019.

Over the course of construction and throughout the buildup in operations, economic impacts would grow over time, but would level off beginning in 2019 (as steady-state operations are reached). Figures ES-1, ES-2, and ES-3 show the growth of impacts and the leveling off that would be expected to occur as steady state operations are reached.

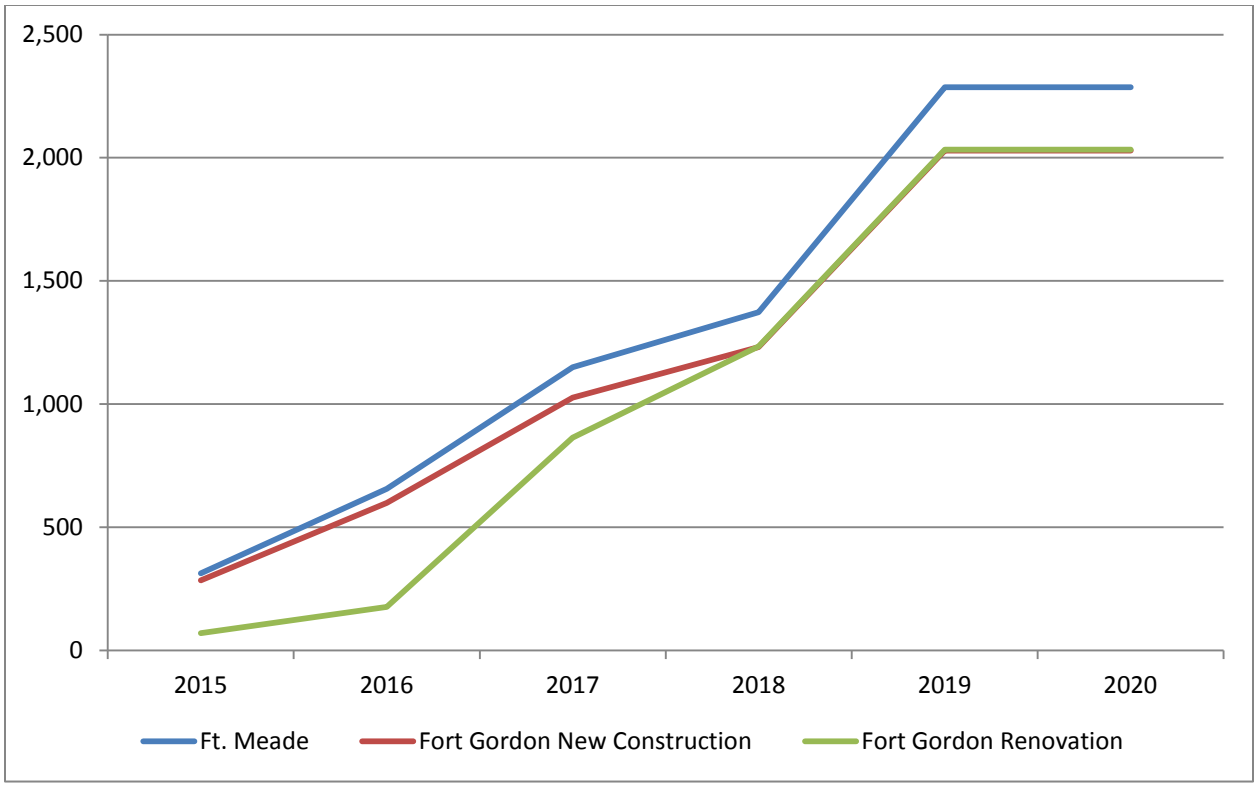

Figure ES-1. Total Jobs Impacts for the three ARCYBER Alternatives

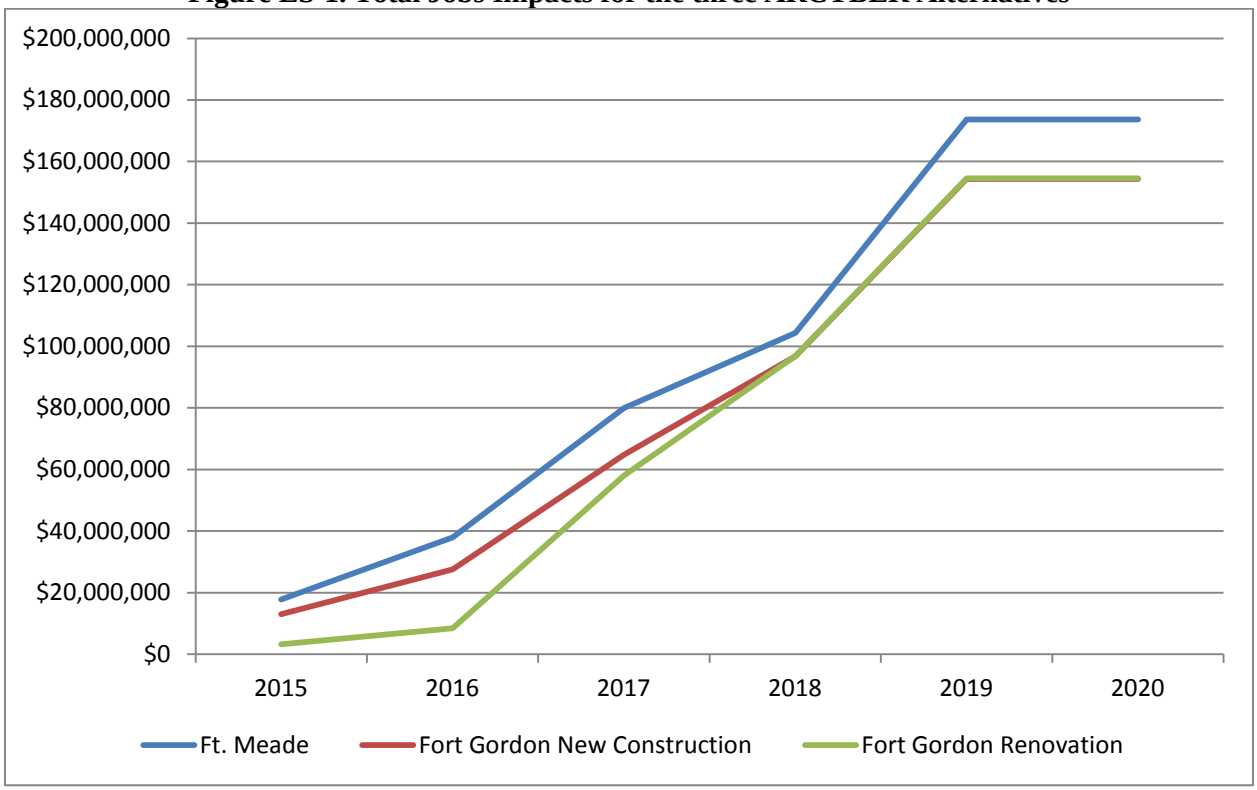

Figure ES-2. Total Labor Income Impacts for the three ARCYBER Alternatives

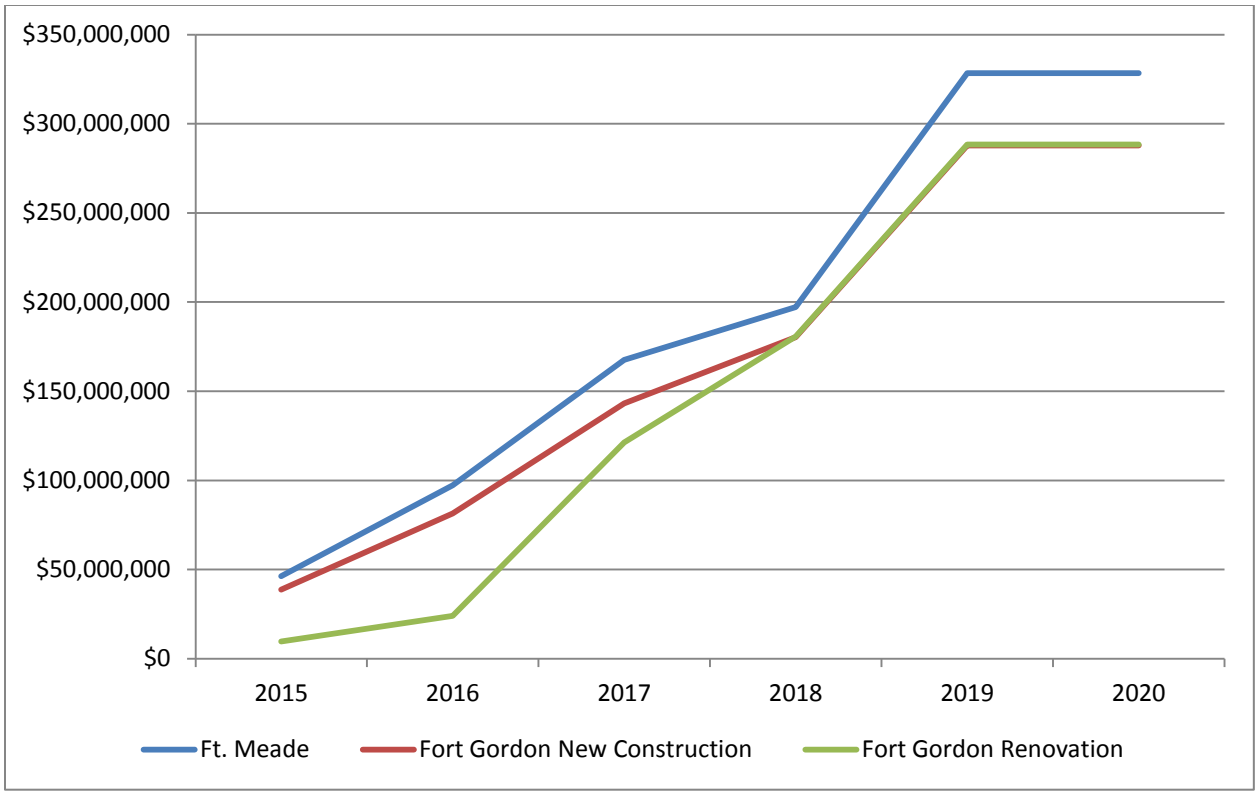

Figure ES-3. Total Economic Output Impacts for the three ARCYBER Alternatives

CHAPTER 1. INTRODUCTION

1.1 PURPOSE OF THE STUDY

The United States (U.S.) Army Cyber Command (ARCYBER) is proposing to construct and operate a command and control facility that would be located at Fort Meade in Anne Arundel County, Maryland or at Fort Gordon in Richmond County, Georgia (with portions of the Fort extending into Jefferson, Columbia, and McDuffie Counties). The purpose of this socioeconomic report is to provide estimates of the potential economic impacts of the proposed project on the economic conditions of the counties that would potentially host the facility. Analysis in this socioeconomic report quantifies economic impacts that would be generated by three potential alternatives: 1) a new facility at Fort Meade, 2) a new facility at Fort Gordon, and 3) a renovated facility at Fort Gordon.

The socioeconomic report was prepared as a stand-alone study to the ARCYBER Environmental Assessment (EA) for the proposed construction and operations of ARCYBER at either Fort Meade or at Fort Gordon. The findings of this socioeconomic report will be incorporated into the ARCYBER EA.

1.2 PROJECT TIMELINE

Impacts are presented on a year-by-year basis and both *construction* and *operational* activities are considered. It is currently expected that, for each alternative, construction would begin in 2015 and be completed in 2017. For a portion of 2017 construction and operational activities would occur simultaneously, as construction winds down and operations ramp up. Operations would be expected to begin, at a low level of capacity, in 2017, subject to the completion of portions of construction. During 2018, it would be expected that construction would be completed and operations would be ramping-up to reach full capacity by year end. The year 2019 would be expected to be the first full year at full operations; this year represents the first year of *steady-state* operations. The phasing considered in this socioeconomic report is summarized, in Table 1-1, as follows:

Table 1-1. Construction and Operations Timeline

Year	Construction	Operations
2015	Construction start	None
2016	Continuing construction	None
2017	Construction end	Start-up operations
2018	None	Operations ramp-up (reach full operations by year end)
2019	None	Entire year at full operations (first year of steady-state)

1.3 OVERVIEW OF RESULT VARIABLES

Analysis in this socioeconomic report quantifies the following types of impacts on the two proposed locations:

- Jobs,
- Labor Income, and
- Economic Output.

When measured in dollar terms, impacts are presented in constant dollars. By presenting impacts in constant dollars, this report implicitly assumes that general economic conditions, during the years for which results are presented, will be similar to current economic conditions. Constant dollar analysis is presented in year 2014 dollars due to the nature of the estimates of expenditures and employment data provided by ARCYBER, which were projected to 2014 levels.

1.4 REGIONS OF INFLUENCE

Anne Arundel County was selected as the Region of Influence (ROI) for the Fort Meade alternatives and even though Fort Gordon extends into other counties, Richmond County was selected as the ROI for the Fort Gordon alternatives. The decision to use Richmond County, singularly, was made for two reasons. First, the proposed site locations are located within the cantonment area, which is within Richmond County. Secondly, Augusta is the largest nearby economic hub and is also within Richmond County. While Fort Gordon's training areas are located in counties other than Richmond County and personnel working at Fort Gordon live in several surrounding counties, the ROI is limited to Richmond County for the reasons mentioned previously. The induced impacts presented in this report (i.e., the spending of the wages and salaries of the direct and indirect employees) would naturally flow outside the ROI into surrounding counties.

CHAPTER 2. APPROACH TO ANALYSIS

2.1 REGIONS OF INFLUENCE

This socioeconomic report conducts analysis for two Regions of Influence (ROIs). One ROI covers the Fort Meade alternative; the ROI for this alternative is Anne Arundel County, Maryland. The second ROI covers the two Fort Gordon alternatives; the ROI for these alternatives is Richmond County, Georgia.

2.1.1 Primary Data

Primary economic data were provided by ARCYBER. For analysis of the construction phase, ARCYBER provided information on construction expenditures and a general timeline for the project. For analysis of the operations phase, ARCYBER provided data on total employment and payroll as well as non-payroll operational expenditures categorized by type of expenditure. A general timeline for the ramp up in operations and a target for full (steady-state) operations were also provided.

2.1.1.1 Construction and Installed Equipment Expenditures

Construction Expenditures

Depending on the alternative carried forward, ARCYBER estimated construction expenditures to be between $28 and $122.7 million. As shown in Table 2-1, the highest expenditures figure, $122.7 million, is associated with the Fort Meade alternative, which would require the construction of a new facility. The Fort Gordon new construction alternative is estimated to cost $112.9 million and the Fort Gordon renovation alternative would require the lowest level of construction expenditures ($28 million). These expenditures include labor, materials, and contractor overhead.

Construction expenditures were input into the Impact Analysis for Planning (IMPLAN) model by allocating them into an appropriate IMPLAN sector. The IMPLAN model requires that expenditures be allocated into sectors because, by virtue of their unique expenditure patterns, every sector of the economy generates different levels of economic impacts. Construction expenditures were allocated to the IMPLAN sector "Construction of new nonresidential commercial and health care structures" which is best correlated to the type of construction required for ARCYBER.

Table 2-1. Construction Expenditures for each Alternative, 2015 to 2017 (Constant 2014 Dollars)

Alternative	2015	2016	2017	Totals
Fort Meade	$30,676,532	$61,353,063	$30,676,532	**$122,706,127**
Fort Gordon (New Construction)	$28,222,409	$56,444,818	$28,222,409	**$112,889,636**
Fort Gordon (Renovation)	$7,016,192	$14,032,385	$7,016,192	**$28,064,769**

Source: ARCYBERARCYBER 2012

Construction employment was generated by the IMPLAN model, based on the expenditures data provided in Table 1-1. Estimates of construction employment are included in the results section of this report.

Installed Furnishings and Equipment Expenditures

Along with the actual construction of ARCYBER, permanent furnishings and equipment would be installed. These furnishings and equipment would be installed into the facility as feasible subject to

completion of portions of construction; it is projected that installation would take place during the years 2016 and 2017. Table 2-2 provides details on expected expenditures on installed furnishings and equipment.

Expenditures on installed furnishings and equipment were input into the IMPLAN model by allocating them into appropriate IMPLAN sectors. The IMPLAN model requires that expenditures be allocated into sectors because, by virtue of their unique expenditure patterns, every sector of the economy generates different levels of economic impacts. Expenditures on installed furnishings and equipment (Table 2-2) were input into the IMPLAN model's "Wholesale Trade" sector. The Wholesale Trade sector comprises establishments engaged in an intermediate step in the distribution of merchandise. Expenditures on installed furnishings and equipment were input into this sector because it was assumed that the installed furnishings and equipment would be manufactured outside of the region, but procured from local wholesale distributers. Because products would be purchased from wholesalers, the IMPLAN model only includes wholesale margins in its estimate of output in the region; wholesale margins are calculated as sales excluding the cost that the wholesaler paid.

Table 2-2. Installed Furnishings and Equipment Expenditures for each Alternative, 2016 and 2017 (Constant 2014 Dollars)

	2016	2017	Totals
Fort Meade			
Furnishings and Equipment	$8,670,851	$70,935,149	$79,606,000
Information Systems	$8,966,149	$73,350,941	$82,317,090
Fort Gordon (New Construction)			
Furnishings and Equipment	$7,977,183	$65,260,337	$73,237,520
Information Systems	$8,248,857	$67,482,866	$75,731,723
Fort Gordon (Renovation)			
Furnishings and Equipment	$9,747,002	$79,739,008	$89,486,010
Information Systems	$10,078,950	$82,454,627	$92,533,577

Source: ARCYBER 2012

2.1.1.2 Operational Employment

Employment totals in Table 2-3 represent all government employees (i.e., active duty military, government civilians, and contract personnel) that would work at ARCYBER. As Table 2-3 indicates, direct operational employment related to ARCYBER would build up from the first year of operations in 2018 until full operational status is reached sometime in 2019. The first full year of operations would occur in 2019, so the 2019 total reflects a steady-state in which the same number of employees would work at ARCYBER absent any unforeseen changes. Please note the total number of full-time positions at ARCYBER and associated labor income and economic output are based on the creation of 1,500 jobs at ARCYBER, which reflects the maximum scenario. It is possible the steady-state operations would require fewer full-time positions than the maximum scenario, resulting in reduced projected labor income and economic output. In addition, direct jobs were not entered into the IMPLAN model because, according to the model, jobs do not generate other jobs. Jobs impacts are generated through increases in economic activity that would be spurred by expenditures that would be associated with the construction and operations of ARCYBER.

Table 2-3. Estimated Direct Operational Employment, 2017 to 2019

	2017	2018	2019*
All Alternatives	375	900	1,500

Source: ARCYBER 2012
Note: *2019 represents a steady-state. This number of jobs would be expected to continue annually for the foreseeable future.

2.1.1.3 Operational Expenditures

There would be two major sources of local expenditures derived from operational activities at ARCYBER: 1) payroll; 2) non-payroll expenditures – purchases of goods and services that would be required to operate ARCYBER. Since it is expected that ARCYBER would maintain operations for the foreseeable future, impacts related to ARCYBER operations would be considered economically sustainable in comparison to the construction phase (which would last less than three full years and be completed in 2017). The following sections discuss the sources and magnitude of ARCYBER operational expenditures during the early start-up stages (2017-2018) and the steady-state (2019 forward).

Operational Payroll Expenditures

Table 2-4 shows payroll expenditures that would be associated with direct operational employment; this information was provided by ARCYBER. Similar to growth in employment (shown in Table 2-3), payroll expenditures would increase from the start of operations in 2017 until full operations are reached by the end of 2018. The first full year of full operations would be expected in 2019.

Operational payroll expenditures were allocated to the IMPLAN sector "Employment and payroll only (federal govt. military)" which is best correlated to payroll of ARCYBER employees.

Table 2-4. Estimated Income of Direct Operations Workers, 2017 to 2019, Constant 2014 Dollars

Alternative	2017	2018	2019*
Fort Meade	$35,125,067	$84,300,160	$140,500,266
Fort Gordon (both alternatives)	$33,645,482	$84,300,160	$134,581,927

Source: ARCYBER 2012.
Note: *Estimate for 2019 represents steady-state payroll expenditures. This level of payroll would be expected to continue annually for the foreseeable future.

Non-payroll Operational Expenditures

Non-payroll operational expenditures refer to expenditures that are made for goods and services that would facilitate operations of ARCYBER. ARCYBER provided information on ARCYBER non-payroll operational expenditures. These data represent purchases of goods and services within the ROI that would be made to maintain the operations of ARCYBER. These expenditures would be paid to firms in the respective ROI's that would be contracted to provide goods and services. Table 2-5 details the types of goods and services that would be required to operate ARCYBER and the expected level of expenditures for each type of goods and services.

Non-labor operational expenditures were allocated into several IMPLAN sectors based on the expenditure categories in Table 2-5, which were provided by ARCYBER. In order to model the expenditures, the categories provided by ARCYBER required conversion into IMPLAN sectors. To convert ARCYBER expenditure categories into IMPLAN sectors, the categories were first converted into North American

Industry Classification System (NAICS) industries. Once classified according to NAICS industry, a table bridging NAICS industries and IMPLAN sectors (Minnesota IMPLAN Group 2012) was used to ensure operational expenditures were allocated into appropriate IMPLAN sectors. Table 2-6 shows non-payroll operational expenditures categorized as provided by ARCYBER and the IMPLAN sectors that the expenditures were subsequently assigned to.

Table 2-5. Non-payroll Operational Expenditures in the ROI, 2018 to 2021, Constant 2014 Dollars

	2017	2018	2019*
Fort Meade			
Sustainment (Facilities Support)	$221,196	$530,869	$884,782
Energy	$204,805	$491,531	$819,218
Water/Wastewater	$5,199	$12,478	$20,797
Real property management	$21,056	$50,534	$84,224
Custodial services	$59,553	$142,927	$238,211
Refuse collection	$4,197	$10,073	$16,788
Grounds maintenance	$6,381	$15,314	$25,523
Pest control	$1,574	$3,778	$6,296
Equipment (Supplies & Upgrades)	$2,016,660	$2,016,660	$2,016,660
Totals	**$2,540,621**	**$3,274,164**	**$4,112,499**
Fort Gordon New Construction			
Sustainment (Facilities Support)	$201,288	$483,091	$805,152
Energy	$136,257	$327,017	$545,028
Water/Wastewater	$4,731	$11,355	$18,925
Real property management	$19,161	$45,986	$76,644
Custodial services	$54,193	$130,063	$216,772
Refuse collection	$3,819	$9,166	$15,277
Grounds maintenance	$5,807	$13,936	$23,226
Pest control	$1,432	$3,437	$5,729
Equipment (Supplies & Upgrades)	$2,016,660	$2,016,660	$2,016,660
Totals	**$2,443,348**	**$3,040,711**	**$3,723,413**
Fort Gordon Renovation			
Sustainment (Facilities Support)	$245,946	$590,270	$983,783
Energy	$166,487	$399,569	$665,948
Water/Wastewater	$5,781	$13,874	$23,123
Real property management	$23,412	$56,189	$93,649
Custodial services	$66,216	$158,919	$264,865
Refuse collection	$4,667	$11,200	$18,667
Grounds maintenance	$7,097	$17,032	$28,387
Pest control	$1,750	$4,200	$7,000
Equipment (Supplies & Upgrades)	$2,016,660	$2,016,660	$2,016,660
Totals	**$2,538,016**	**$3,267,913**	**$4,102,082**

Source: ARCYBER 2012.

Note: *Estimate for 2019 represents steady-state non-payroll operational expenditures. This level of expenditure would be expected to continue annually for the foreseeable future.

Table 2-6. Allocation on Non-Payroll Operational Expenditures into IMPLAN Sectors

Expenditure Category	IMPLAN Sector Description
Sustainment (Facilities Support)	Facilities support services
Energy	State and local government electrical utilities
Water/Wastewater	State and local government electrical utilities
Real property management	Real estate establishments
Custodial services	Services to buildings and dwellings
Refuse collection	Waste management and remediation services
Grounds maintenance	Services to buildings and dwellings
Pest control	Services to buildings and dwellings
Equipment (Supplies & Upgrades)	Wholesale trade

2.1.2 Result Variables and Key Concepts

2.1.2.1 Result Variables

Economic impact variables that are presented as results include Jobs, Labor Income, and Economic Output.

Jobs

Jobs impacts represent the number of jobs that would be created or sustained within the ROI as a result of the construction and operations of ARCYBER. The IMPLAN model generates jobs numbers that include part-time jobs and as such this report does not report full-time equivalent jobs but rather all jobs.

Labor Income

Labor income impacts represent the income generated through the jobs that would be created or sustained within the ROI as a result of the construction and operations of ARCYBER.

Economic Output

Economic output impacts represent total production and sales volume that would be generated in the ROI as a result of the construction and operations of ARCYBER. Economic output is generated by increases in personal expenditures, non-payroll expenditures.

2.1.2.2 Key Concepts

Each of the result variables consists of a direct, an indirect, and an induced element.

Direct Impacts

Direct impacts are associated with the construction and operations of ARCYBER itself. Direct jobs include jobs constructing and operating the ARCYBER facility. Direct labor income is the incomes earned by those workers and direct economic output is associated with initial purchases of local construction materials and supplies, as well as goods and services that would facilitate the operations of ARCYBER.

Indirect Impacts

Indirect impacts are the jobs, income, and economic output generated by the businesses that would supply goods and services to ARCYBER. Indirect jobs include jobs at companies that supply construction

materials/supplies or support jobs directly related to ARCYBER operations. Indirect jobs can extend to include jobs related to the manufacture of products used to construct and operate the facility. Indirect labor income includes the income earned by people working indirect jobs. Indirect output includes the total sales volume related to the supply of goods and services to the suppliers of businesses that would supply ARCYBER with construction and operational support.

Induced Impacts

Induced impacts are the result of spending of the wages and salaries of the direct and indirect employees on items such as food, housing, transportation, and medical services. This spending creates induced employment in nearly all sectors of the economy, especially service sectors.

CHAPTER 3. ECONOMIC IMPACT RESULTS

3.1 FORT MEADE ALTERNATIVE – ANNE ARUNDEL COUNTY, MARYLAND

3.1.1 Jobs

Table 3-1 presents jobs impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of 656 jobs would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; 1,149 jobs would be generated in 2017. Operations would ramp up continually during 2018; the number of total jobs would grow throughout the year, with an estimated 1,373 jobs generated over the course of the year. The year 2019 represents the first full year of full operations; 2,286 jobs would be generated annually in 2019 and every year for the foreseeable future. Figure 3-1 illustrates the results presented in Table 3-1.

Table 3-1. Jobs Impact from Combined Construction and Operations, Anne Arundel County, 2015-2019

	2015	2016	2017	2018	2019*
Direct	193	402	723	909	1,514
Indirect/Induced	120	254	426	464	772
Total	**313**	**656**	**1,149**	**1,373**	**2,286**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

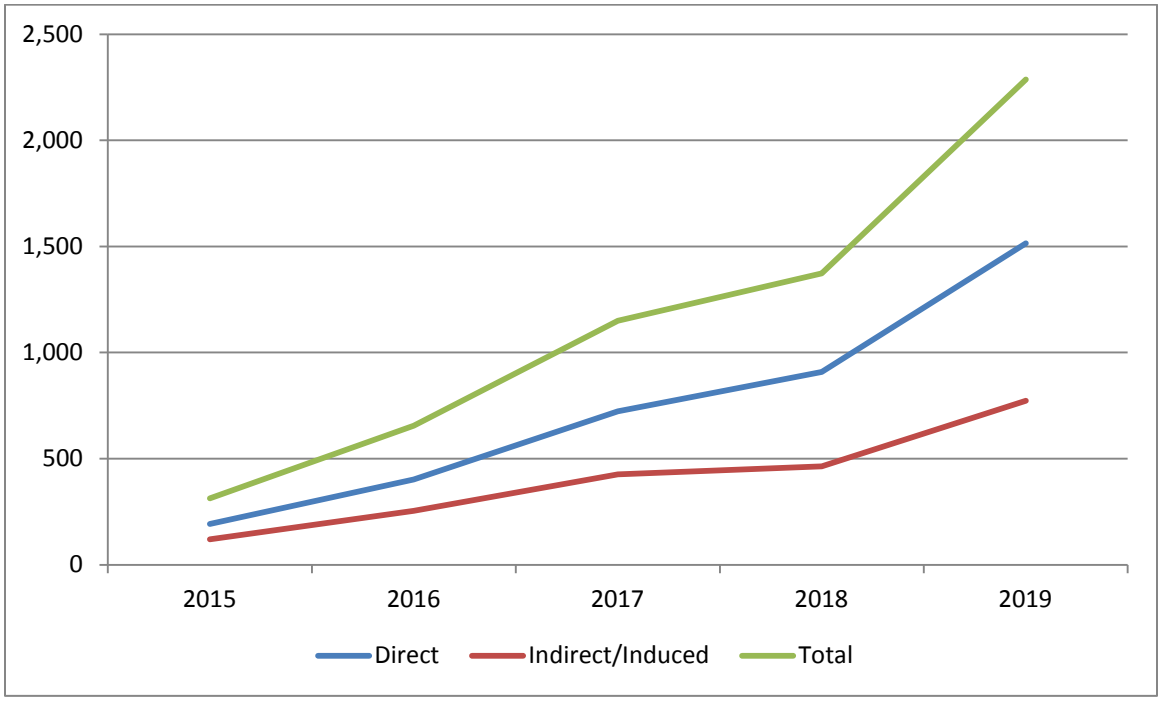

Figure 3-1. Jobs Impact from Combined Construction and Operations, Anne Arundel County, 2015-2019

3.1.2 Labor Income

Table 3-2 presents labor income impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $37,900,788 in labor income would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $76,809,019 in labor income would be generated in 2017. Operations would ramp up continually during 2018; the amount of labor income generated would grow throughout the year, with an estimated $104,321,175 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $173,696,002 in labor income would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER. Figure 3-2 illustrates the results presented in Table 3-2.

Table 3-2. Labor Income Impact from Combined Construction and Operations, Anne Arundel County, 2015-2019, Constant 2014 Dollars

	2015	2016	2017	2018	2019*
Direct	$11,775,173	$25,181,578	$58,237,126	$84,957,730	$141,471,869
Indirect/Induced	$6,042,950	$12,719,210	$18,571,893	$19,363,446	$32,224,133
Total	**$17,818,123**	**$37,900,788**	**$76,809,019**	**$104,321,175**	**$173,696,002**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

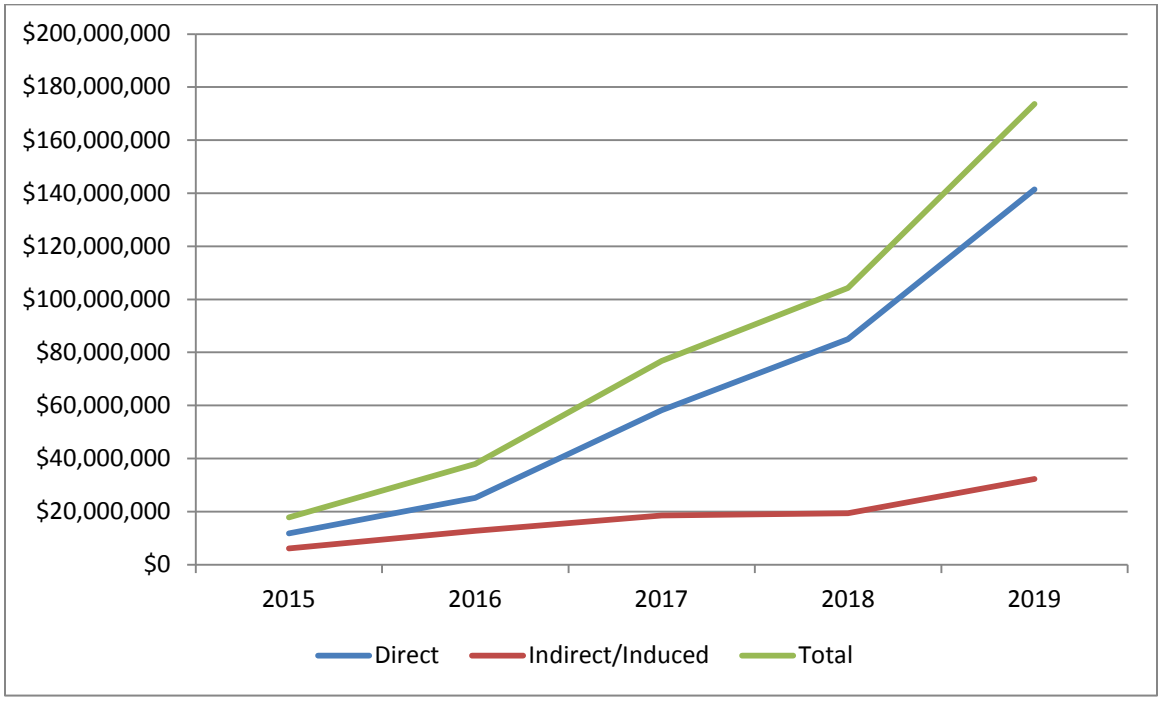

Figure 3-2. Labor Income Impact from Combined Construction and Operations, 2015-2019, Anne Arundel County, Constant 2014 Dollars

3.1.3 Economic Output

Table 3-3 presents economic output impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $97,237,418 in economic output would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $159,589,892 in economic output would be generated in 2017. Operations would ramp up continually during 2018; the amount of economic output generated would grow throughout the year, with an estimated $197,227,085 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $328,349,665 in economic output would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER. Figure 3-3 illustrates the results presented in Table 3-3.

Table 3-3. Economic Output Impact from Combined Construction and Operations, Anne Arundel County, 2015-2019, Constant 2014 Dollars

	2015	2016	2017	2018	2019*
Direct	$30,676,531	$64,386,627	$108,333,334	$141,231,811	$235,155,106
Indirect/Induced	$15,566,887	$32,850,940	$51,256,558	$55,995,274	$93,194,559
Total	**$46,243,418**	**$97,237,567**	**$159,589,892**	**$197,227,085**	**$328,349,665**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

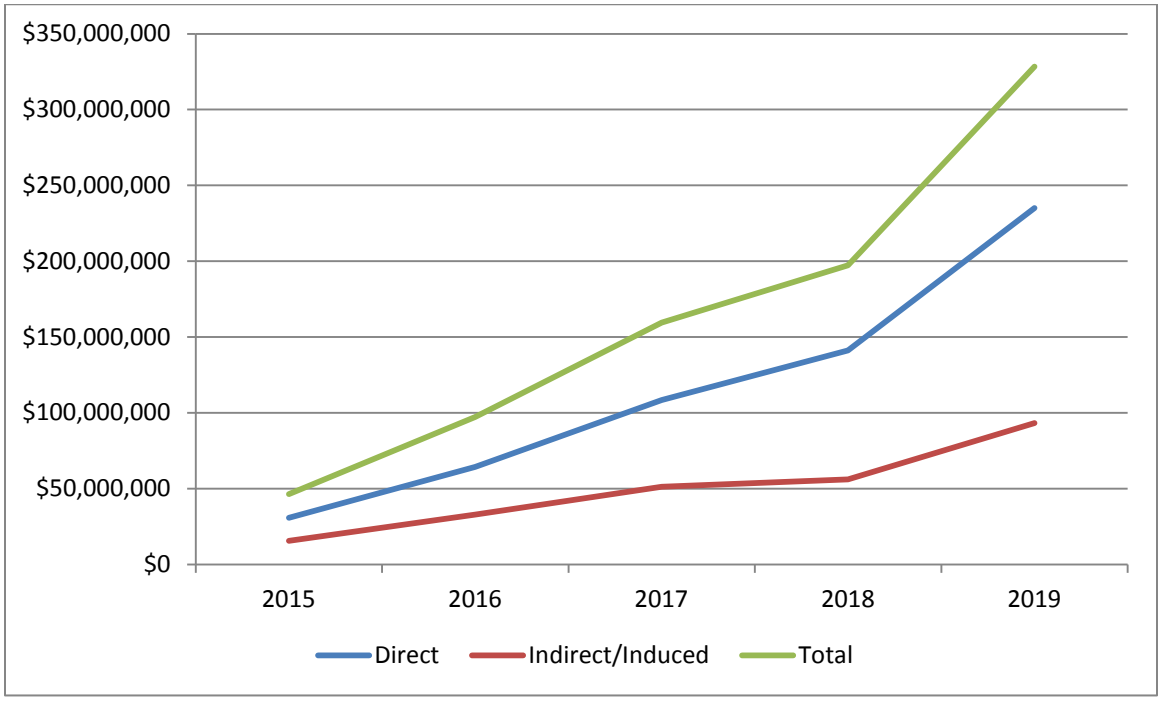

Figure 3-3. Economic Output Impact from Combined Construction and Operations, 2015-2019, Anne Arundel County, Constant 2014 Dollars

3.2 FORT GORDON NEW CONSTRUCTION ALTERNATIVE – RICHMOND COUNTY, GEORGIA

3.2.1 Jobs

Table 3-4 presents jobs impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of 599 jobs would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; 1,026 jobs would be generated in 2017. Operations would ramp up continually during 2018; the number of total jobs would grow throughout the year, with an estimated 1,232 jobs generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum 2,029 jobs would be generated annually in 2019 and every year for the foreseeable future if upwards of 1,500 people are employed at ARCYBER. Figure 3-4 illustrates the results presented in Table 3-4.

Table 3-4. Jobs Impact from Combined Construction and Operations, Richmond County, 2015-2019

	2015	2016	2017	2018	2019*
Direct	202	423	735	909	1,514
Indirect/Induced	83	175	291	323	515
Total	**285**	**599**	**1,026**	**1,232**	**2,029**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

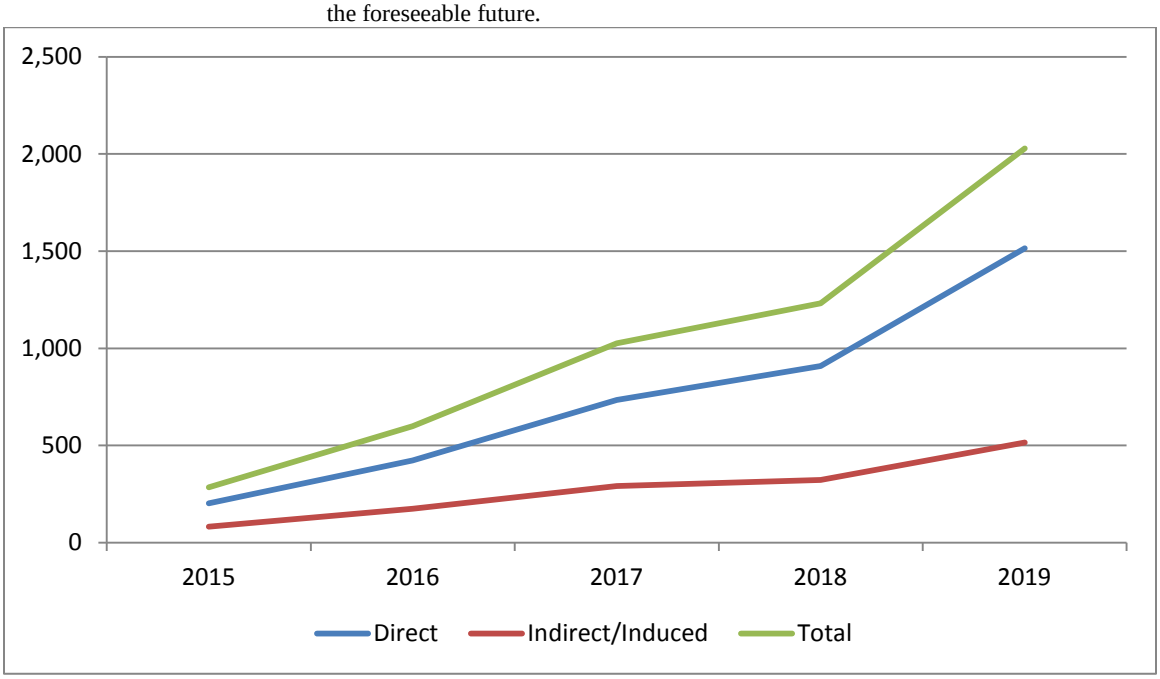

Figure 3-4. Jobs Impact from Combined Construction and Operations, Richmond County, 2015-2019

3.2.2 Labor Income – Combined Construction and Operations

Table 3-5 presents labor income impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $27,526,175 in labor income would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $62,212,780 in labor income would be generated in 2017. Operations would ramp up continually during 2018; the amount of labor income generated would grow throughout the year, with an estimated $96,721,246 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $154,331,368 in labor income would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER. Figure 3-5 illustrates the results presented in Table 3-5.

Table 3-5. Labor Income Impact from Combined Construction and Operations, 2015-2019, Richmond County, Constant 2014 Dollars

	2015	2016	2017	2018	2019*
Direct	$9,480,441	$20,176,026	$51,286,681	$84,869,423	$135,430,015
Indirect/Induced	$3,483,783	$7,350,149	$10,926,099	$11,851,824	$18,901,353
Total	**$12,964,224**	**$27,526,175**	**$62,212,780**	**$96,721,246**	**$154,331,368**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

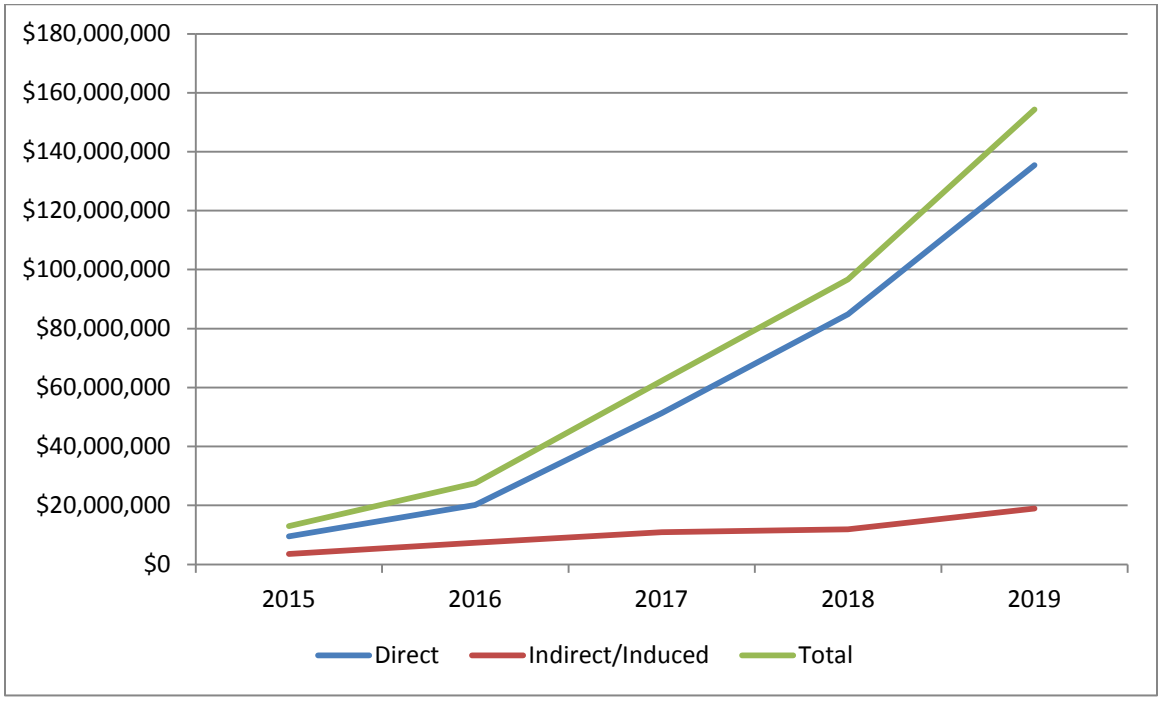

Figure 3-5. Labor Income Impact from Combined Construction and Operations, 2015-2019, Richmond County, Constant 2014 Dollars

3.2.3 Economic Output - Combined Construction and Operations

Table 3-6 presents economic output impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $81,387,177 in economic output would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $135,850,166 in economic output would be generated in 2017. Operations would ramp up continually during 2018; the amount of economic output generated would grow throughout the year, with an estimated $180,396,813 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $287,803,673 in economic output would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER. Figure 3-6 illustrates the results presented in Table 3-6.

Table 3-6. Economic Output Impact from Combined Construction and Operations, 2015-2019, Richmond County, Constant 2014 Dollars

	2015	2016	2017	2018	2019*
Direct	$28,222,409	$59,235,697	$102,686,292	$143,745,964	$229,349,845
Indirect/Induced	$10,509,283	$22,151,480	$33,163,874	$36,650,848	$58,453,828
Total	**$38,731,692**	**$81,387,177**	**$135,850,166**	**$180,396,813**	**$287,803,673**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

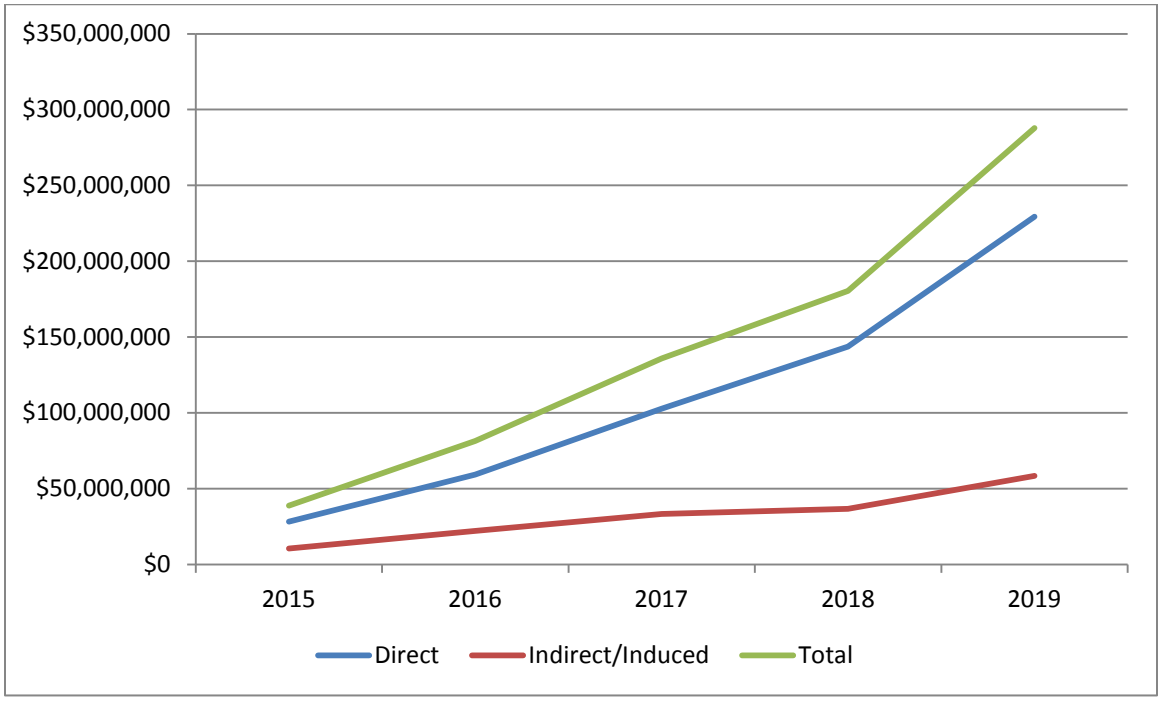

Figure 3-6. Economic Output Impact from Combined Construction and Operations, 2015-2019, Richmond County, Constant 2014 Dollars

3.3 FORT GORDON RENOVATION ALTERNATIVE – RICHMOND COUNTY, GEORGIA

3.3.1 Jobs

Table 3-7 presents jobs impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of 176 jobs would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; 864 jobs would be generated in 2017. Operations would ramp up continually during 2018; the number of total jobs would grow throughout the year, with an estimated 1,235 jobs generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum 2,033 jobs would be generated annually in 2019 and every year for the foreseeable future if upwards of 1,500 people are employed at ARCYBER. Figure 3-7 illustrates the results presented in Table 3-7.

Table 3-7. Jobs Impact from Combined Construction and Operations, 2015-2019, Richmond County

	2015	2016	2017	2018	2019*
Direct	50	123	617	911	1,517
Indirect/Induced	54	119	271	323	516
Total	**71**	**176**	**864**	**1,235**	**2,033**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

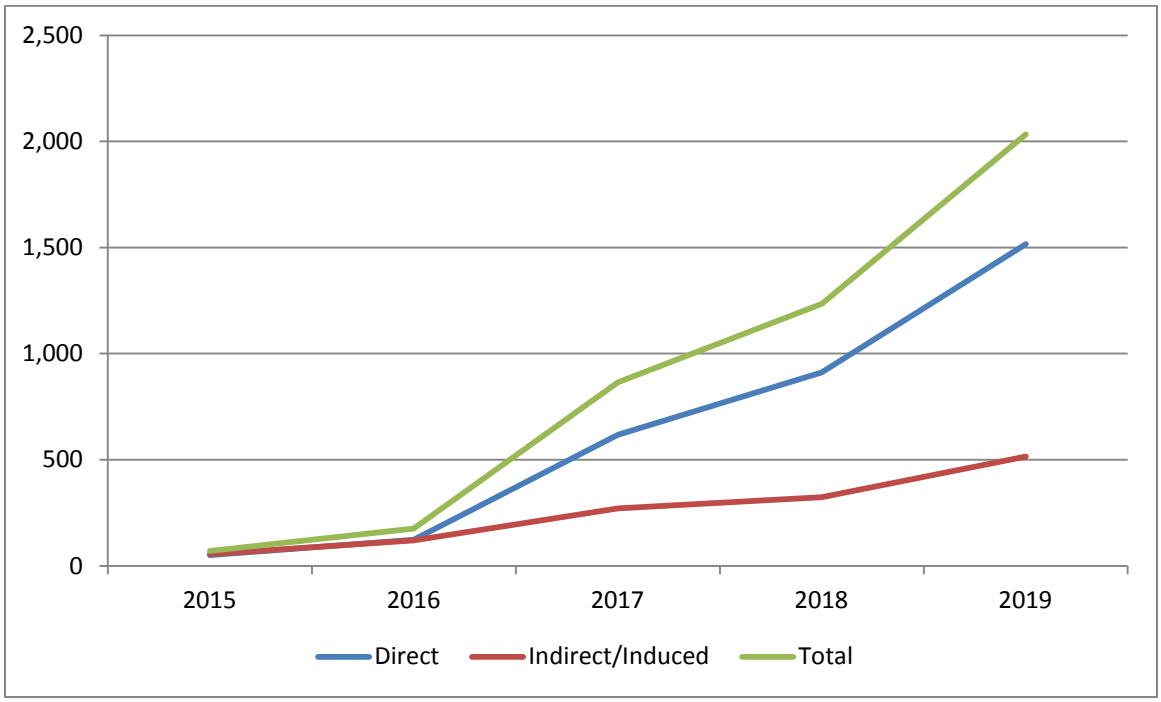

Figure 3-7. Jobs Impact from Combined Construction and Operations, 2015-2019, Richmond County

3.3.2 Labor Income

Table 3-8 presents labor income impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $8,398,104 in labor income would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $55,689,374 in labor income would be generated in 2017. Operations would ramp up continually during 2018; the amount of labor income generated would grow throughout the year, with an estimated $96,841,653 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $154,532,046 in labor income would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER. Figure 3-8 illustrates the results presented in Table 3-8.

Table 3-8. Labor Income Impact from Combined Construction and Operations, 2015-2019, Richmond County, Constant 2014 Dollars

	2015	2016	2017	2018	2019*
Direct	$2,356,872	$6,198,479	$46,599,688	$84,962,215	$135,584,669
Indirect/Induced	$866,081	$2,199,625	$9,089,686	$11,879,439	$18,947,377
Total	**$3,222,953**	**$8,398,104**	**$55,689,374**	**$96,841,653**	**$154,532,046**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

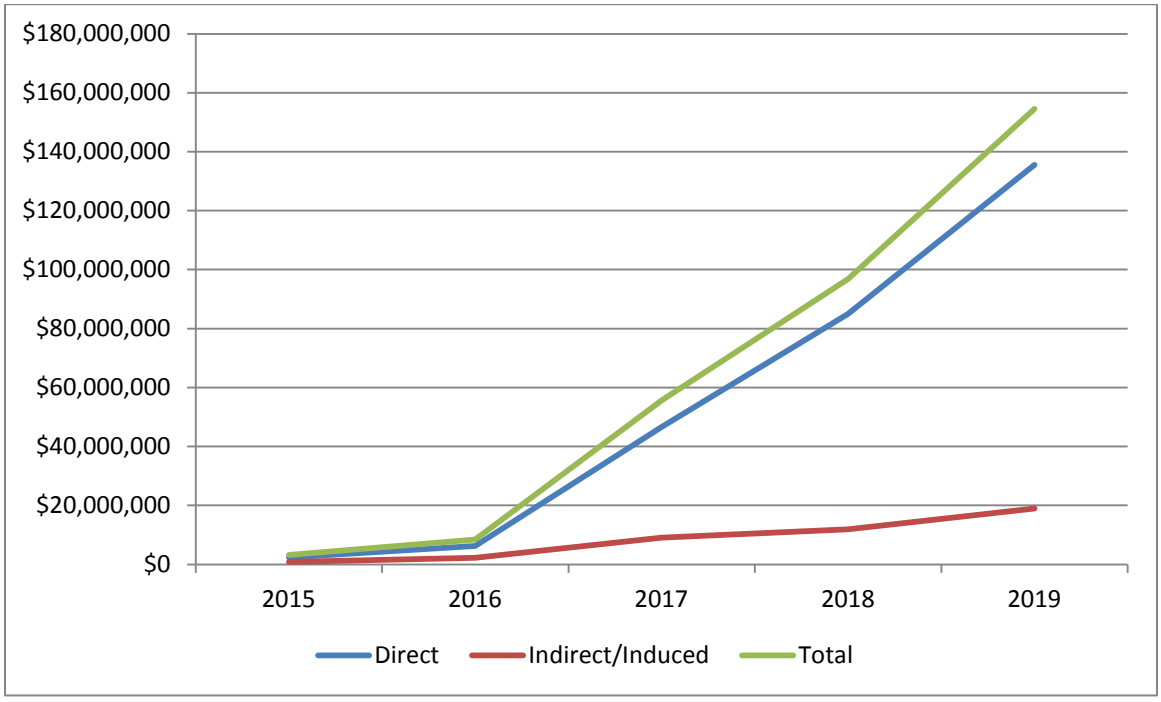

Figure 3-8. Labor Income Impact from Combined Construction and Operations, 2015-2019, Richmond County, Constant 2014 Dollars

3.3.3 Economic Output - Combined Construction and Operations

Table 3-9 presents economic output impacts that would result from the combined construction and operations of ARCYBER. The years 2015 and 2016 would consist solely of construction activities; in 2016 a total of $24,052,003 in economic output would be generated by the construction activities. The year 2017 would consist of both construction and operations activities; $116,080,900 in economic output would be generated in 2017. Operations would ramp up continually during 2018; the amount of economic output generated would grow throughout the year, with an estimated $180,706,677 generated over the course of the year. The year 2019 represents the first full year of full operations; a maximum $288,320,113 in economic output would be generated annually in 2019 and every year for the foreseeable future (on a constant dollar basis) if upwards of 1,500 people are employed at ARCYBER. Figure 3-9 illustrates the results presented in Table 3-9.

Table 3-9. Economic Output Impact from Combined Construction and Operations, 2015-2019, Richmond County, Constant 2014 Dollars

	2015	2016	2017	2018	2019*
Direct	$7,016,192	$17,442,449	$88,509,691	$143,973,166	$229,728,514
Indirect/Induced	$2,612,645	$6,609,554	$27,571,209	$36,733,511	$58,591,599
Total	**$9,628,837**	**$24,052,003**	**$116,080,900**	**$180,706,677**	**$288,320,113**

Note: *Estimate for 2019 represents steady-state operations. This level of jobs would be expected to continue annually for the foreseeable future.

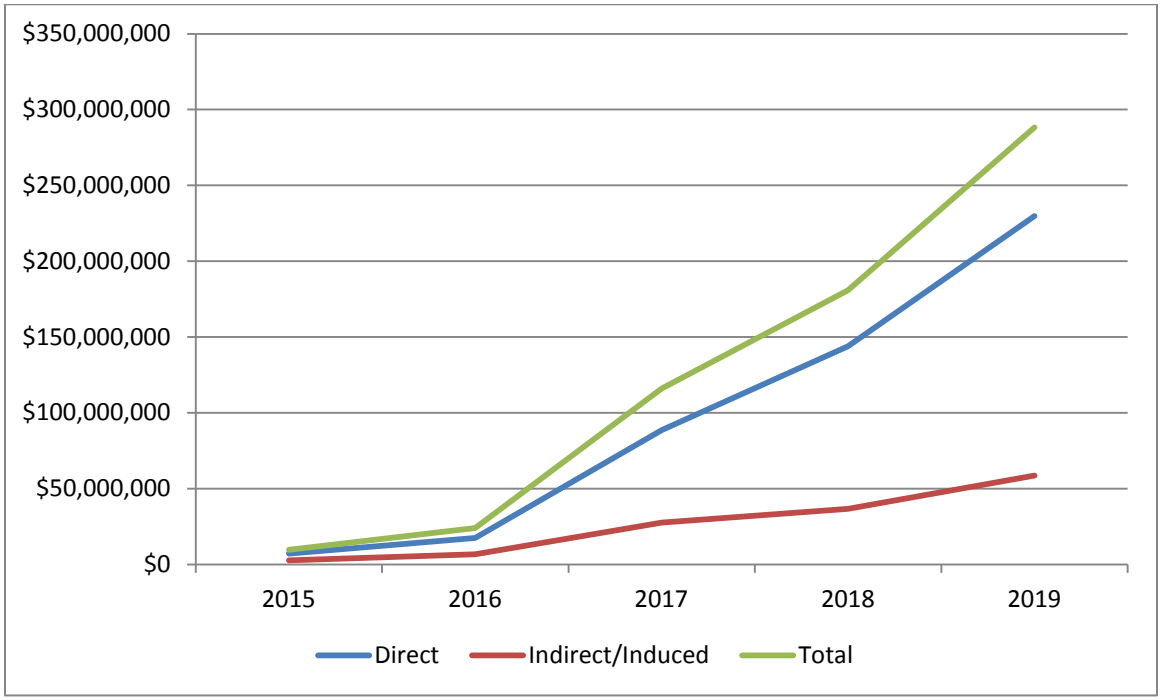

Figure 3-9. Economic Output Impact from Combined Construction and Operations, 2015-2019, Richmond County, Constant 2014 Dollars

CHAPTER 4. REFERENCES

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