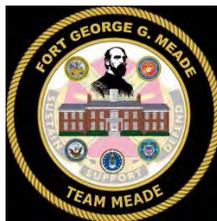


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**DRAFT FINAL ENVIRONMENTAL ASSESSMENT**

**Proposed Construction of  
175<sup>th</sup> Network Warfare Squadron Facility  
at U.S. Army Garrison  
Fort George G. Meade , Maryland**



**October 2016**

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**DRAFT FINAL**  
**FINDING OF NO SIGNIFICANT IMPACT**  
**ENVIRONMENTAL ASSESSMENT**  
**175<sup>th</sup> NETWORK WARFARE SQUADRON FACILITY**  
**Fort George G. Meade, Anne Arundel County, Maryland**

Name of Action: 175<sup>th</sup> Network Warfare Squadron Facility at Fort George G. Meade, Maryland.

Description of Proposed Action: The 175<sup>th</sup> Network Warfare Squadron (NWS), Maryland Air National Guard (MDANG or ANG) proposes to construct and operate a new facility, properly designed and configured, to support training missions of the 175<sup>th</sup> NWS at Fort George G. Meade (Fort Meade), Maryland. The Proposed Action is needed because the unit lacks suitable space to organize, train, and store equipment. The 71 person squadron is currently training in a conference room at the MDANG facility at Martin State Airport near Middle River, Maryland. The conference room consists of approximately 450 square feet of non-classified space and has no classified space as the conference room is also used by the MDANG 235<sup>th</sup> Civil Engineering Squadron. This new facility would accommodate the entire 175<sup>th</sup> NWS providing classified space and would alleviate the overcrowded and outdated spaces it currently occupies.

In addition to consolidation of personnel, a new facility is also needed to provide equipment storage and asset security. As suitable classified space is not available, the equipment has been placed in storage and is not being used to support the 175<sup>th</sup> NWS training as intended.

The 175<sup>th</sup> NWS personnel are currently fragmented across multiple campuses. Currently the squadron has 10 full-time personnel and 18 part-time members – all preparing for Cyber Command (CYBERCOM) mobilization cycles which begins in Fall of 2016. The members report to an off campus facility maintained by CYBERCOM. The unit is building to 21 full-time personnel and 50 part-time guard members, all of which will reside in the new Military Construction project at Fort Meade Garrison. The Army Stationing and Installation Plan data will be provided to the Garrison in approximately Fall of 2016.

Alternatives Evaluated: An Environmental Assessment (EA) was prepared to evaluate the potential environmental, cultural, transportation, and socioeconomic effects associated with the Proposed Action. The Proposed Action includes establishing and operating a new 175<sup>th</sup> NWS facility at Fort Meade. Fort Meade was considered due to the location of the National Security Agency on the installation, cost to construct, and security. Alternatives at Fort Meade included both renovations and new construction. Four alternative locations were evaluated on and off Fort Meade and were determined to be “not feasible” due to two general reasons and they were: the distance to connect networks and utilities alone raised costs beyond the total funding for the project; or the sites were designated for another activity and tenant.

As required, 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 the 175<sup>th</sup> NWS functions would continue to be conducted in existing locations at Fort Meade or Martin State Airport. Under the No Action alternative, no new facility would be constructed for the 175<sup>th</sup> NWS. Operational efficiency would continue to suffer as a result of coordinating operations occurring at two geographically separated units using substandard communication infrastructure unable to meet training requirements. The 175<sup>th</sup> NWS would be unable to properly assemble the newly acquired training equipment which would remain in storage.

Additionally, the 175<sup>th</sup> NWS would be limited in its ability to meet operational requirements by restricting workforce security to inadequate space accommodations.

**Anticipated Impacts:** Based on the analysis contained in the EA, it was determined that implementation of the Proposed Action would result in short-term minor adverse impacts to land use, noise, potable water, sanitary sewer/wastewater, and power from the construction of any of the proposed action; 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 and long-term minor adverse impacts to traffic; and short-term and long-term minor beneficial impacts to socioeconomics 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 the Proposed Action.

The Proposed Action will comply with all applicable federal, state, and local regulations and permit requirements.

**Public Involvement:** A Public Notice and agency coordination letters were sent out on 10 August 2015 to interested parties. Comments were received from the Maryland State Historic Preservation Office (SHPO) and U.S. Environmental Protection Agency (USEPA). The Maryland SHPO determined there are no historic properties affected by the Proposed Action. The USEPA provided comments on the purpose and need, alternatives to the Proposed Action, cumulative impact analysis for past, present and future projects occurring near the project area, impacts to the community and also provided general comments on natural resources within the project area.

The Draft Final EA and Draft Final FNSI were made available for public review {Date} through {Date} at the Medal of Honor Memorial Library on Fort Meade and the Odenton Regional Library, Odenton, Maryland. Notices of Availability of the Draft Final EA and Draft Final FNSI were published in the Baltimore Sun, The Annapolis Capital, The Maryland Gazette, and The SOUND OFF. All comments received during this public review period, including agency responses were considered. {Although no significant impacts are anticipated, comments and concerns pertaining to natural resources within the Fort Meade area were received and considered}.

**Mitigation:** Mitigation measures in association with the Proposed Action include a variety of applicable BMPs to be implemented both during and after construction to avoid and minimize adverse environmental effects. These include:

- Compliance with a State-approved stormwater management plan and erosion and sediment control plan, using stormwater management and erosion control Best Management Practices (BMPs) required by the State.
- Compliance with the State 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 Meade and appropriate installation policy. Tree preservation measures will be incorporated into construction plans.
- Compliance with a Clean Water Act Section 404 permit and State Non-tidal Wetland Protection Act. Any required mitigation measures in the permit will be complied with.
- All construction equipment will be treated according to BMPs in a manner that would minimize the spread of invasive species.
- Compliance with all applicable federal and state 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.

Finding of No Significant Impact: After a review of the EA, I have determined that the Proposed Action evaluated may be selected for implementation. I have concluded that implementation of the Proposed Action will have no significant impacts to the natural environment, cultural resources, or human environment. Based upon the aforementioned, preparation of an Environmental Impact Statement is not required.

Date: \_\_\_\_\_

\_\_\_\_\_  
THOMAS S. RICKARD  
COL, IN  
Commanding



**Maryland Air National Guard**

**DRAFT FINAL ENVIRONMENTAL ASSESSMENT**

**Proposed Construction of  
175<sup>th</sup> Network Warfare Squadron Facility  
at U.S. Army Garrison  
Fort George G. Meade , Maryland**

**October 2016**



**ENVIRONMENTAL ASSESSMENT**  
**175<sup>TH</sup> NETWORK WARFARE SQUADRON FACILITY**  
**U.S. Army Garrison Fort George G. Meade, Maryland**

**Reviewed and  
Recommended for Approval by:**

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SHAWN N. BRATTON  
Commander  
175<sup>th</sup> Cyberspace Operations Group

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Date

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Michael P. Butler  
Chief, Environmental Division

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Date

**Approved by:**

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SCOTT L. KELLY, Brig Gen, MDANG  
Commander  
175<sup>th</sup> Wing

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Date

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THOMAS S. RICKARD  
COL, IN  
Commanding

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Date

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## **EXECUTIVE SUMMARY**

### **INTRODUCTION**

This Environmental Assessment (EA) has been prepared to analyze the potential environmental, cultural and socioeconomic effects associated with the construction and operation of a 175<sup>th</sup> Network Warfare Squadron (NWS) Facility at Fort George G. Meade, Maryland (hereinafter referred to as Fort Meade).

The mission of the 175<sup>th</sup> NWS, Maryland Air National Guard (MDANG) is to provide fully qualified cyber operations personnel in support of the mission delineated by the U.S. Air Force and U.S Cyber Command (USCYBERCOM). Slightly over a decade ago, the Air National Guard (ANG) activated the 175<sup>th</sup> NWS, a very small group, which was originally accommodated by existing facilities at Fort Meade. Over the years and with the stand up of USCYBERCOM, the squadron has grown to the present authorization of 71 personnel and presently occupies space at Fort Meade as well as only UNCLASSIFIED administrative space MDANG facility located at Martin State Airport. Fort Meade is no longer able to spare adequate space for 175<sup>th</sup> NWS and it is becoming increasingly difficult for the squadron to operate within the existing facilities at Fort Meade. The MDANG facility at Martin State Airport also does not have the capacity to properly support the 175<sup>th</sup> NWS. Currently, 175<sup>th</sup> NWS personnel travel from Martin State Airport to Fort Meade, as space allows, to train and conduct operations incidental to training. The 175<sup>th</sup> NWS requires a facility adequately sized and properly configured to perform its training and operational missions.

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.

### **PURPOSE AND NEED FOR THE PROPOSED ACTION**

The purpose of the Proposed Action is to construct and operate a new facility, properly designed and configured with classified space, to support training missions of the 175<sup>th</sup> NWS. The Proposed Action is needed because the unit lacks suitable space to organize, train, and store equipment. The 71 person squadron is currently training in a conference room at the MDANG facility at Martin State Airport near Middle River, Maryland. The conference room consists of approximately 450 square feet of non-classified space and is also used by the MDANG 235<sup>th</sup> Civil Engineering Squadron. This new facility would accommodate the entire 175<sup>th</sup> NWS providing classified space and would alleviate the overcrowded and outdated spaces it currently occupies.

In addition to consolidation of personnel, a new facility is also needed to provide equipment storage and asset security. As suitable classified space is not available, the equipment has been placed in storage and is not being used to support the 175<sup>th</sup> NWS training as intended. A new facility would provide the appropriate classified space to allow the use of this equipment.

## DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The EA analyzes two courses of actions: the Proposed Action and the No Action alternative.

**Proposed Action:** The Proposed Action covers approximately 4.5 acres and includes the construction and operation of a one-story facility covering approximately 9,000 gross square feet with an associated parking area and access road. The Proposed Action also includes site development, utility and communication connections, fire protection, and other associated activities. To accommodate the new facility, clearing, grubbing, demolition of pavement, demolition of a small building (approximately 300 square feet), and grading would be required at the proposed site.

**No Action Alternative:** Under the No Action alternative, no new facility would be constructed for the 175<sup>th</sup> NWS and the 175<sup>th</sup> NWS functions would continue to be conducted in existing locations at Fort Meade and Martin State Airport. Operational efficiency would continue to suffer as a result of coordinating operations occurring at two geographically separated units using substandard communication infrastructure unable to meet training requirements. The 175<sup>th</sup> NWS would be unable to properly assemble the newly acquired training equipment which would remain in storage. Additionally, the 175<sup>th</sup> NWS would be limited in their ability to meet operational requirements by restricting workforce security to inadequate space accommodations.

**Other Alternatives:** Four alternatives were considered on and off Fort Meade for providing adequate facilities for the 175<sup>th</sup> NWS, but were dropped because they were determined to be “not feasible” as the distance to connect networks and utilities alone drove costs beyond the total funding for the project. Each alternative was explored and evaluated by looking at proximity to the National Security Agency, cost to construct and security. These alternatives included both renovations and new construction at Martin State Airport, Mapes Road and Taylor Avenue, Mapes Road and 6<sup>th</sup> Armored Cavalry Road, and Taylor Avenue.

## 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 proposed action; 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 and long-term minor adverse impacts to traffic; short-term and long-term minor beneficial impacts to socioeconomics 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 the Proposed Action.

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 {insert dates} online at [www.ftmeade.army.mil](http://www.ftmeade.army.mil) and the documents could be found at the

Medal of Honor Memorial Library on Fort Meade and the West County Area Library, Odenton, Maryland. Notices of Availability of the Draft EA and Draft FNSI were published in the Baltimore Sun, The Annapolis Capital, The Maryland Gazette and The SOUNDOFF. 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 FNSI has been prepared.

<b>Table ES-1: Summary of Effects of the Proposed Action and the No-Action Alternative</b>		
<b>Resource</b>	<b>Proposed Action</b>	<b>No-Action Alternative</b>
Land Use	Short-term Minor Adverse Impacts	No Impacts
Visual and Aesthetic Value	Short-term and Long-term Minor Adverse Impacts	No Impacts
Air Quality	Short-term and Long-term Minor Adverse Impacts	No Impacts
Noise	Short-term Minor Adverse Impacts	No Impacts
Geology and Soils	Short-term and Long-term Minor Adverse Impacts	
Surface Waters	Possible Short-term Minor Adverse Impacts	No Impacts
Stormwater	Possible Short-term and Long-term Minor Adverse Impacts	No Impacts
Floodplains	No Impacts	No Impacts
Groundwater	No Impacts	No Impacts
Coastal Zone	No Impacts	No Impacts
Wetlands	No Impacts	No Impacts
Vegetation	Short-term and Long-term Minor Adverse Impacts	No Impacts
Wildlife Resources	Short-term and Long-term Minor Adverse Impacts	No Impacts
Rare, Threatened or Endangered Species	No Impacts	No Impacts
Aquatic Habitat	No Impacts	No Impacts
Cultural Resources	No Impacts	No Impacts
Hazardous, Toxic and Radioactive Substances	No Impacts	No Impacts
Traffic, Roadways and Transportation Systems	Short-term and Long-term Minor Adverse Impacts	No Impacts
Potable Water	Short-term Minor Adverse Impacts	No Impacts
Sanitary Sewer/Wastewater	Short-term Minor Adverse Impacts	No Impacts
Power	Short-term Minor Adverse Impacts	No Impacts
Solid Waste	Short-term and Long-term Minor Adverse Impacts	No Impacts
Socio-economic	Short-term and Long-term Minor Beneficial Impacts	No Impacts
Environmental Justice/Protection of Children	No Disproportionate Impacts	No Impacts
Cumulative Impacts	No Significant Impacts	No Impacts

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## **1.0 PURPOSE, NEED AND SCOPE**

### **1.1 INTRODUCTION**

This Environmental Assessment (EA) has been prepared to analyze the potential environmental, cultural and socioeconomic effects associated with the construction and operation of a 175<sup>th</sup> Network Warfare Squadron (NWS) Facility at Fort George G. Meade, Maryland (hereinafter referred to as Fort Meade) (Figure 1-1).

The mission of the 175<sup>th</sup> Network Warfare Squadron, Maryland Air National Guard (MDANG) is to provide fully qualified cyber operations personnel in support of the mission delineated by the U.S. Air Force and U.S Cyber Command (USCYBERCOM). Slightly over a decade ago, the Air National Guard (ANG) activated the 175<sup>th</sup> NWS, a very small group, which was originally accommodated by existing facilities at Fort Meade. Over the years and with the stand up of USCYBERCOM, the squadron has grown to the present authorization of approximately 71 personnel and presently occupies space at Fort Meade as well as only UNCLASS administrative space MDANG facility located at Martin State Airport. As other organizations located at Fort Meade have similarly expanded, they are no longer able to spare adequate space for 175<sup>th</sup> NWS and it is becoming increasingly difficult for the squadron to operate within the existing facilities at Fort Meade. The MDANG facility at Martin State Airport also does not have the capacity to properly support the 175<sup>th</sup> NWS. Currently, 175<sup>th</sup> NWS personnel travel from Martin State Airport to Fort Meade, as space allows, to train and conduct operations incidental to training. The 175<sup>th</sup> NWS requires a facility adequately sized and properly configured to perform its training and operational missions.

### **1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION**

The purpose of the Proposed Action is to construct and operate a new facility, properly designed and configured, to support training missions of the 175<sup>th</sup> NWS. The Proposed Action is needed because the unit lacks suitable space to organize, train, and store equipment. The approximately 71 person squadron is currently training in a conference room at the MDANG facility at Martin State Airport. The conference room consists of approximately 450 square feet of non-classified space and a classified area cannot be constructed as the conference room is also used by the 235<sup>th</sup> ANG Civil Engineering Squadron. This new facility would accommodate the entire 175<sup>th</sup> NWS squadron and would alleviate the overcrowded and outdated spaces they currently occupy.

In addition to consolidation of personnel, a new facility is also needed to provide equipment storage and asset security. As suitable classified space is not available, the equipment has been placed in storage and is not being fully utilized to support the 175<sup>th</sup> NWS training as intended.

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.



### **1.3 SCOPE OF THE ENVIRONMENTAL ASSESSMENT**

This EA was prepared to analyze the potential environmental effects associated with the construction and operation of a proposed 175<sup>th</sup> NWS Facility at 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.

### **1.4 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 were 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).
- Final EA for U.S. Army Cyber Command and Control Facility (ARCYBER) dated October 2013. This EA analyzed the construction of a facility or renovation of existing buildings to accommodate a workforce comprised of active duty military, government civilian and contract personnel at either Fort Gordon or Fort Meade.
- Draft Fort Meade Integrated Natural Resource Management Plan (INRMP) Update dated September 2014.
- Fort Meade Integrated Cultural Resources Management Plan (ICRMP) dated October 2011.

### **1.5 PUBLIC INVOLVEMENT**

A Public Notice was released on 11 August 2015 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) and the Maryland State Historic Preservation Officer (SHPO) were initiated on 11 August 2015. Copies of the Public Notice, coordination letters, mailing list and response letters are included in Appendix A.

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 15 days, from {insert dates}, along with a draft Finding of No Significant Impact (FNSI). At the end of the 15-day public review period, comments were received and considered on the Proposed Action, the Draft EA or Draft FNSI. As such, the MDANG will execute the FNSI and proceed with implementation of the Proposed Action, the Proposed Action will not result in significant impacts and preparation of an EIS is not needed.

## **1.6 ENVIRONMENTAL LAWS AND REGULATIONS**

ANG 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 ANG actions. These include, but are not limited to: the Clean Air Act (CAA); Clean Water Act (CWA); Noise Control Act; Endangered Species Act (ESA); Bald Eagle Protection 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*; EO 13112, *Invasive Species*. Key provisions of appropriate statutes and Eos and compliance are described in more detail throughout the text of this EA and in Table 1-1.

**Table 1-1: Compliance with Federal Environmental Statutes and Executive Orders**

Acts	Compliance
Clean Air Act, as amended (42 United States Code [U.S.C.] ch. 85, subch. I §7401 et seq.)	FULL
Clean Water Act, as amended (33 U.S.C. ch. 23 §1151)	FULL
Coastal Zone Management Act (16 U.S.C. ch. 33 §1451 et seq.)	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 (16 U.S.C. ch. 35 §1531 et seq.)	FULL
Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e)	FULL
Migratory Bird Treaty Act (16 U.S.C §§703-712, et seq.)	FULL
National Environmental Policy Act of 1969 (42 U.S.C. §4321 et seq.)	FULL
National Historic Preservation Act of 1966, as amended (16 U.S.C. ch. 1A, subch.II §470 et seq.)	FULL
Noise Control Act of 1972, as amended (42 U.S.C. §§4901-4918, et seq.)	FULL
Resource Conservation and Recovery Act (42 U.S.C. ch. 82 §6901 et seq.)	FULL
Safe Drinking Water Act, as amended (42 U.S.C. §300f)	FULL
Toxic Substances Control Act of 1976 (15 U.S.C. ch.53, subch. I §§2601-2629)	FULL
Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. §1101, et seq.)	FULL
North American Wetlands Conservation Act (16 U.S.C. 4401-4412)	FULL
Sikes Act, as amended (16 U.S.C. 670a-670o)	FULL
Archaeological Resources Protection Act, as amended (16 U.S.C. §§470aa-470mm)	FULL
<b>Executive Orders (EO)</b>	
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
Invasive Species (EO 13112)	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
Planning for Federal Sustainability in the Next Decade (EO 13693)	FULL

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## 2.0 DESCRIPTION OF PROPOSED ACTION

The ANG proposes to construct and operate a new facility at Fort Meade to support the mission of the 175<sup>th</sup> NWS (Figure 2-1). This facility would accommodate an anticipated workforce of up to 71 personnel. Once constructed, approximately 64 personnel located at Fort Meade and approximately 7 personnel currently located at Martin State Airport would relocate to the new facility. The EA analyzes two courses of action: the Proposed Action and the No Action alternative. A description of the Proposed Action is provided in the following paragraphs. A description of the No Action alternative and other alternatives previously considered is provided in Section 3.0.

The Proposed Action covers approximately 4.5 acres and includes the construction and operation of a one-story facility covering approximately 9,000 gross square feet with an associated parking area and access road. The Proposed Action also includes site development, utility and communication connections, fire protection, and other associated activities. To accommodate the new facility, clearing, grubbing, demolition of pavement, demolition of a small building (approximately 300 square feet), and grading would be required at the proposed site.

It is anticipated that building construction will consist of a reinforced concrete foundation and floor slab with steel framed masonry walls and roof structure with interior walls and utilities. A majority of the building would be classified as a Sensitive Compartmented Information Facility (SCIF) and would adhere to the Technical Specifications for Intelligence Community Directive/Intelligence Community Standard (ICD/ICS) 705. The building would also include unclassified support space for administrative offices, conference rooms, break rooms and restrooms.

The new facility would comply with ANG Instruction 32-1023, *Criteria and Standards for Air National Guard Construction*, Air Force Handbook 32-1084, *Facility Requirements* and ANG Handbook 32-1084, *Facility Space Standards*. New facilities will adhere to *Department of Defense (DoD) Minimum Antiterrorism Standards for Buildings* as presented in Unified Facilities Criteria (UFC) 4-010-01, effective 9 February 2012.

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.

New construction will incorporate Leadership in Energy and Environmental Design (LEED) and sustainable development concepts, so as to achieve optimum resource efficiency, constructability, sustainability and energy conservation, while minimizing adverse impacts to the built and natural environments through all phases of its life cycle. Maryland Department of the Environment (MDE) stormwater management requirements will be incorporated in the design.



Proposed Action Location  
Fort George G. Meade  
Anne Arundel County, Maryland

0 750 1,500 3,000 4,500 6,000 Feet

1 inch = 3,000 feet



**Figure 2-1: Proposed Action Location**

### **3.0 ADDITIONAL ALTERNATIVES CONSIDERED**

#### **3.1 INTRODUCTION**

This chapter describes the alternatives to the Proposed Action. 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 facility would be constructed for the 175<sup>th</sup> NWS and the 175<sup>th</sup> NWS functions would continue to be conducted in existing locations at Fort Meade and Martin State Airport. Operational efficiency would continue to suffer as a result of coordinating operations occurring at two geographical separated units using substandard communication infrastructure unable to meet training requirements. The 175<sup>th</sup> NWS would be unable to properly assemble the newly acquired training equipment which would remain in storage. Additionally, the 175<sup>th</sup> NWS would be limited in their ability to meet operational requirements by restricting workforce security to inadequate space accommodations.

#### **3.3 OTHER ALTERNATIVES CONSIDERED BUT ELIMINATED**

Four alternatives on and off Fort Meade were considered for providing adequate facilities for the 175<sup>th</sup> NWS. Each alternative was explored and evaluated by looking at proximity to the National Security Agency, cost to construct and security. These alternatives included both renovations and new construction. All alternatives were determined to be “not feasible” as the distance to connect networks and utilities alone drove costs beyond the total funding for the project. Descriptions of each alternative are provided below.

1. Martin State Airport – The original intent was to be in the same facility with the National Security Agency (NSA) personnel currently located on Martin State when they constructed their new building. There was a bit of push back with the Joint Facility and the MDANG ended up in a co-located facility. The main reason they are at Fort Meade and near the NSA facility is so that they could easily tie into to network available to the NSA. This location was determine to be not feasible because the system requirements are not available to perform the mission at Martin State where the rest of the base personnel reside.
2. Mapes Road and Taylor Avenue – This site was set aside and intended for U.S. Army Cyber Command (ARCYBER) and Control Facility to construct a new 179,056-square foot (SF) facility within an approximately 18-acre site. The EA was completed in October 2013 with a Finding of No Significant Impacts (FNSI) that then recommended

ARCYBER be located at Fort Gordon. This location was determined to be not feasible as the distance to connect networks and utilities alone drove costs beyond the total funding for the project.

3. Mapes Road and 6<sup>th</sup> Armored Cavalry Road – This site was set aside and intended for U.S. ARCYBER and Control Facility to construct a new 179,056 SF facility within an approximately 18-acre site. The EA was completed in October 2013 with a FNSI that then recommended ARCYBER be located at Fort Gordon. This location was determined to be not feasible as the distance to connect networks and utilities alone drove costs beyond the total funding for the project.
4. Taylor Avenue – This location was determined to be not feasible due to encroachment on NSA’s fence line to the west and 100-year floodplain to the east.

### **3.4 PREFERRED ALTERNATIVE**

The Proposed Action is the Preferred Action. The Proposed Action was the only option that ultimately met all requirements and was within budget to facilitate infrastructure connections.

## **4.0 AFFECTED ENVIRONMENT**

This section describes the environment that would be affected by constructing and operating a 175<sup>th</sup> NWS Facility at Fort Meade. 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) defines 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 as well as the immediate surrounding vicinity.

Each environmental, cultural and social resource category typically considered in an EA was reviewed for its applicability under the Proposed Action. The following sections include descriptions of the affected environment.

### **4.1 LAND USE**

#### **4.1.1 Regional Land Use**

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.

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.

#### **4.1.2 Installation Land Use**

Fort Meade is home to 119 tenants 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.

The project area is comprised of approximately 4.5 acres of largely open space that was formerly associated with the installation golf course. As open space this area includes the now closed golf course. The site abuts Midway Branch and the 100-year floodplain.

## **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.

Portions of the project area 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.

## **4.3 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<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>), particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and lead. The federal government has established ambient air quality standards (National Ambient Air Quality Standards [NAAQS]) for several criteria pollutants (USEPA, 2014). 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<sub>2</sub>, PM<sub>2.5</sub> and PM<sub>10</sub>. Secondary pollutants are those formed through chemical reactions in the atmosphere such as O<sub>3</sub> and NO<sub>2</sub>. Volatile organic compounds (VOCs) (also referred to as hydrocarbons or reactive organic gases [ROGs]) are precursors to the production of O<sub>3</sub>. SO<sub>2</sub> and NO<sub>2</sub> are reported as oxides of sulfur (SO<sub>x</sub>) and oxides of nitrogen (NO<sub>x</sub>), respectively. SO<sub>2</sub> and NO<sub>2</sub> constitute the majority of their respective oxides.

Regulatory agencies designate areas that violate ambient air quality standards as nonattainment areas. Nonattainment designations for O<sub>3</sub>, CO, PM<sub>2.5</sub> and PM<sub>10</sub> include subcategories indicating the severity of the air quality problem (e.g., the classifications range from moderate to serious for

CO and PM<sub>10</sub>, and from marginal to severe for O<sub>3</sub>). Areas that comply with federal air quality standards are attainment areas. Areas that are re-designated 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<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). 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<sub>2</sub>, which has a value of one. For example, CH<sub>4</sub> has a GWP of 36, which means that it has a global warming effect 36 times greater than CO<sub>2</sub> on an equal-mass basis (U.S. EPA, *Understanding Global Warming Potentials Website*). Nitrous oxide molecules stay in the atmosphere for an average of 114 years before being removed by a sink or destroyed through chemical reactions. The impact of 1 pound of N<sub>2</sub>O on warming the atmosphere is almost 300 times that of 1 pound of carbon dioxide. To simplify GHG analyses, total GHG emissions from a source are often expressed as a CO<sub>2</sub> equivalent (CO<sub>2e</sub>). The CO<sub>2e</sub> 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<sub>4</sub> and N<sub>2</sub>O have much higher GWPs than CO<sub>2</sub>, CO<sub>2</sub> is emitted in such higher quantities that it is the overwhelming contributor to CO<sub>2e</sub> from both natural processes and human activities. CO<sub>2e</sub> emissions summary for construction emissions and operational emissions (workforce commute) is 1,990.63 metric tons/year for the proposed action.

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 EO 13693 *Planning for Federal Sustainability in the Next Decade* 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.

In December 2014, the CEQ published a revised draft guidance for public review on how federal agencies should evaluate the effects of climate change and GHG emissions for NEPA documentation (CEQ, 2014). Specifically, if a proposed action emits 25,000 metric tons or more of CO<sub>2e</sub> 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 (revised 5 April 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.

The ROI for the Proposed Action 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<sub>2.5</sub> and O<sub>3</sub> (VOCs and NO<sub>x</sub> are precursors to the formation of O<sub>3</sub>). 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 minimis* levels for the project area are 100 tons per year for PM<sub>2.5</sub> and NO<sub>x</sub>. The VOC *de minimis* level is 50 tons per year as established for nonattainment areas located in an O<sub>3</sub> 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.

## **4.4 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 4-1.

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.

<b>Table 4-1: Common Noise Levels</b>		
<b>Source</b>	<b>Decibel Level</b>	<b>Exposure Concern</b>
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

Noise elements in and around the proposed project area 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.

#### **4.5 GEOLOGY AND SOILS**

Fort Meade lies in the Atlantic Coastal Plain Physiographic Province (Maryland Geological Survey, 2014). 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, 2013). 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).

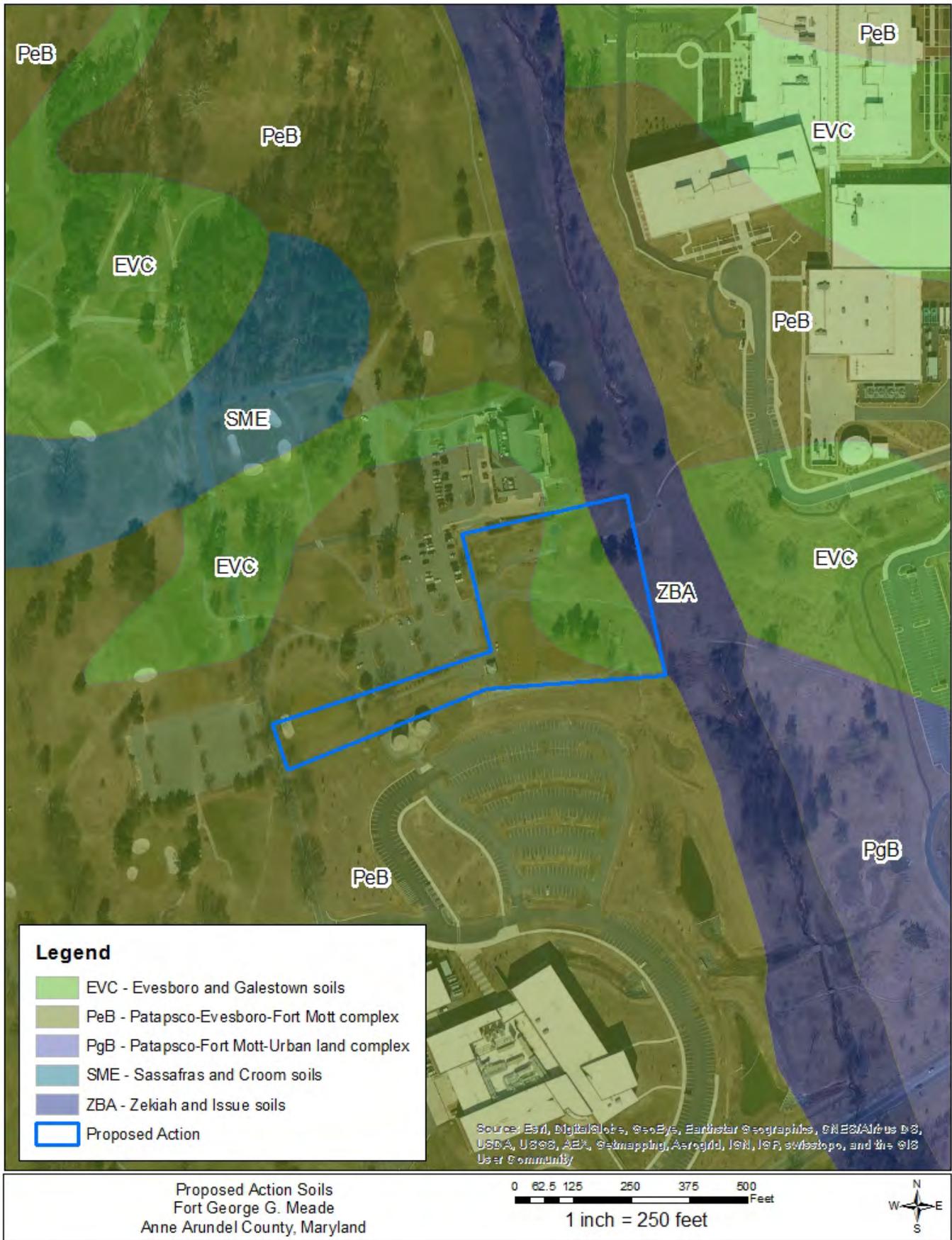
Of the 39 distinct soil mapping units on Fort Meade, the Muirkirk Loamy Sand, Keyport Sandy Loam, and Evesboro and Galestown Loamy Sand units are classified as highly erodible lands (HEL), as defined by The Anne Arundel County Code, § 2-101 (22E). Several soil mapping units have severe limitations to 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).

The three soils mapped within the proposed project site belong primarily to the Patapsco-Fort Mott Complex and the Evesboro Complex (NRCS, 2013). Specifically, the soils underlying the sites are: Evesboro and Galestown soils, Patapsco-Evesboro-Fort Mott complex and Zekiah and Issue soils (Figure 4-1).

## **4.6 WATER RESOURCES**

### **4.6.1 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.



**Figure 4-1: Proposed Action Soils**

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.

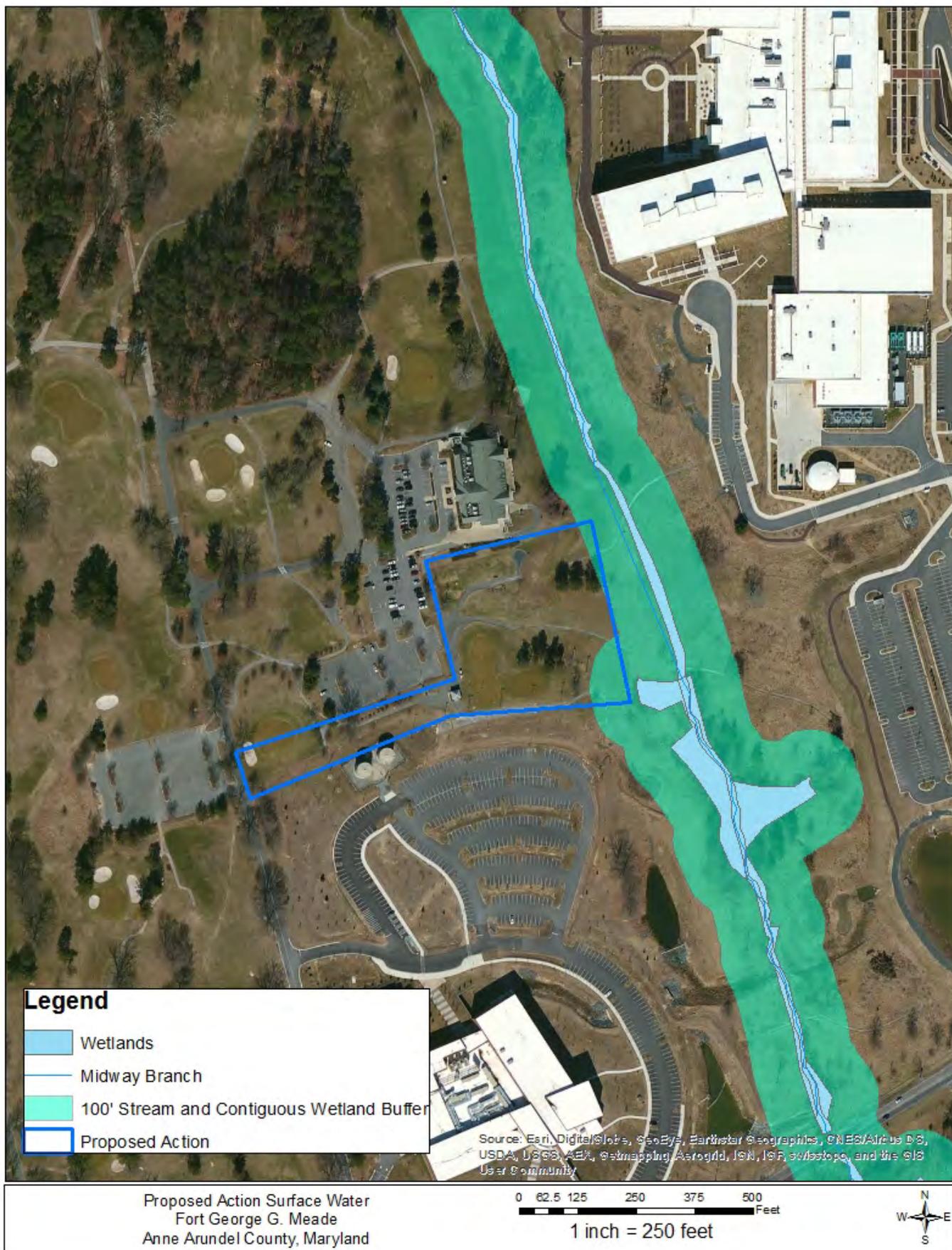
#### **4.6.2 Surface Water**

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. 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. There are no Federally-listed Wild and Scenic Rivers located in Maryland. The Little Patuxent River is currently listed on Maryland's list of impaired waters under Section 303(d) of the CWA (MDE, 2014). 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 4-2). 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.

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.



**Figure 4-2: Proposed Action Surface Water**

Fort Meade has approximately 215 acres of wetland, most of which occur along the Little Patuxent River floodplain in the southwestern portion of the installation and along Midway Branch, Franklin Branch and their 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.

The proposed project site is adjacent to Midway Branch, however, no surface water is present on the site. Fort Meade consistently avoided developing riparian corridors from the 1990's until BRAC 2005. The location of this future building, even with a 100-foot riparian buffer, is an additional exception to that practice. All attempts should be made to minimize the project footprint and locate all features, including stormwater BMPs, as far away from the Midway Branch as possible.

### **4.6.3 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 and concrete storm drains with grass swales, throughout the Installation.

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 95<sup>th</sup> 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, evapo-transpiration and use. Federal agencies can also use footprint-reduction practices (e.g., building up instead of out) to reduce their stormwater impact.

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.

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 (ESD) 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 2015 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.

The potential project site is located to the west of Midway Branch. The potential project site has been designed to avoid encroaching within the 100 foot stream buffer.

For the potential project site, 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 southwest).

## **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 prohibits federal agencies from building in 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 (EO 12148) 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).

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 (USACE, 2008).

The project area is not located within the 100- or 500-year floodplains (Figure 4-3) (FEMA, 2015). The project area is located approximately 23 linear feet (LF) from the 100-year floodplain and approximately 6 LF from the 500-year floodplain. All attempts will be made to minimize the project footprint and locate all features, including stormwater BMPs, as far away from the floodplain is possible.

#### **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 60<sup>th</sup> 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



Proposed Action Floodplains  
 Fort George G. Meade  
 Anne Arundel County, Maryland

**Figure 4-3: Proposed Action Floodplains**

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.

A Memorandum of Understanding between the State of Maryland and the U.S. DoD, dated 8 May 2013, requires DoD projects and operations to demonstrate consistency with the underlying goals of the (Maryland) Forest Conservation Act to the maximum extent practicable with the approved, enforceable policies of Maryland's Coastal Zone Management (CZM) Program.

All of Fort Meade is located within the Maryland 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.

Although the potential project site is within the CZM Program, all wetlands and streams will be avoided.

## **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 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.

### **4.9.1 Vegetation**

EEE Consulting, Inc. prepared a *Planning Level Vegetation Surveys* report in 2014 (EEE, 2014). The report included three components: a Flora Planning Level Survey Update and Floristic Inventory, a Rare, Threatened and Endangered (RTE) Species Planning Level Survey Update and a Vegetation Communities Planning Level Survey and Forest Mapping.

Several Classification of Vegetation Communities of Maryland (CVSM) Alliances were identified within the Post. Definitions for CVCM alliances can be viewed at the following link: <http://www.dnr.state.md.us/irc/docs/00015752.pdf>. The top alliances identified through the methodology defined above are the *Pinus virginiana* forest alliance, *Quercus falcata* forest alliance, *Liriodendron tulipifera* forest alliance, *Quercus prinus* - (*Quercus coccinea*, *Quercus velutina*) forest alliance, *Quercus alba* - (*Quercus rubra*, *Carya* spp.) forest alliance, and the *Quercus alba* - *Quercus (falcata, stellata)* forest alliance. The first two alliances (*Pinus virginiana* forest alliance, *Quercus falcata* forest alliance) represent more than half of the alliances observed within Fort Meade. Pitch pine (*Pinus rigida*), a commonly documented species within Fort Meade, does not appear to be listed as an alliance occurring in the coastal

plain of Maryland. The Virginia pine (*Pinus virginiana*) forest alliance lists pitch pine as a major component of the alliance. Another common pine species at Fort Meade, shortleaf pine (*Pinus echinata*) is also documented within most of the common alliances, and is primarily included in the *Pinus virginiana* forest alliance. (EEE, 2014).

Four timber types were identified within the Post. The types identified were: Cove and Mixed Hardwood, Upland Hardwood, Pine Hardwood and Pine. A description of each type is provided below:

*Cove and Mixed Hardwoods:* This is the most valuable timber type on the installation, consisting of a mixture of Yellow Poplar (*Liriodendron tulipifera*), Sweet Gum (*Liquidambar styraciflua*), Red Maple (*Acer rubrum*), Silver Maple (*Acer saccharinum*), River Birch (*Betula nigra*), Sycamore (*Platanus occidentalis*), American Elm (*Ulmus americana*), Black Walnut (*Juglans nigra*), Black Locust (*Robinia pseudoacacia*). Less important species include Catalpa (*Catalpa speciosa*) and Persimmon (*Diospyros virginiana*).

*Upland Hardwood:* The timber species in this timber type consist of at least 80 percent hardwoods, and twenty percent pine. The hardwood types consist of White Oak (*Quercus alba*), Red Oak (*Quercus rubra*), Black Oak (*Quercus velutina*), Willow Oak (*Quercus phellos*), Scarlet Oak (*Quercus coccinea*), Post Oak (*Quercus stellata*), Hickory Species (*Carya* spp), American Beech (*Fagus grandifolia*). Less important species include Sassafras (*Sassafras albidum*), Flowering Dogwood (*Cornus florida*), Rhododendron (*Rhododendron maximum*) and American Holly (*Hex opaca*).

*Pine Hardwood:* This timber type contains a mixture of upland hardwoods and pine in a combination ratio of from 20 to 80 percent of either species.

*Pine:* This last timber type consists of three species of pine, Virginia Pine (*Pinus virginiana*), Pitch Pine (*Pinus rigida*) and Short Leaf Pine (*Pinus echinata*). Loblolly Pine and White Pine do not occur naturally, but grow well and have been planted in several small stands.

The 2013 floristic inventory identified 450 taxa, including 28 invasive species, one state-endangered plant (Torrey's Rush, *Juncus torreyi*) and 134 taxa not previously identified in the 1994, 2001 or 2009 surveys. There are 711 total taxa identified within Fort Meade from 1994 to 2013. No federally-listed plants were identified (EEE, 2014).

USACE conducted field surveys on Fort Meade from 19 to 23 September and 3 to 7 October 2011. The team surveyed approximately 1,315 acres of the total 5,253 acres of Fort Meade. Invasive species were observed on approximately 540 acres of the surveyed area. Thirty two invasive species were identified during the surveys. The species with the most surveyed occurrences were Asiatic bittersweet (*Celastrus orbiculatus*), Japanese honeysuckle (*Lonicera japonica*), Nepalese browntop (*Microstegium vimineum*) and mile-a-minute (*Polygonum perfoliatum*). Table 4-2 provides the invasive species that were identified during the survey, the I-Rank explanation for why these species are listed as invasive and their pathways for spreading and their overall density on Fort Meade.

**Table 4-2: Invasive Plant Species Present in 2011**

<i>Scientific Name</i>	<b>Common Name</b>	<b>I-Rank Summary</b>	<b>Overall Density on Fort Meade</b>
<i>Acer platanoides</i>	Norway maple	Commonly planted shade/street tree, reproduces by seed and re sprouting after cutting.	Low
<i>Ailanthus altissima</i>	Tree of heaven	Predominantly invades disturbed sites with low habitat quality.	Low
<i>Albizia julibrissin</i>	Mimosa	Species of human-disturbed areas (roadsides, etc.), ornamental, also riparian & forest edges.	Low
<i>Alliaria officinalis</i>	Garlic mustard	Widespread, but commonly in highly disturbed systems, although recent evidence shows starting to invade a greater range of geographic and ecological areas, including intact, healthy ecosystems.	Low
<i>Allium vineale</i>	Wild garlic	Predominantly a pest of agriculture that is difficult to control.	Low
<i>Aralia spinosa</i>	Devil's walkingstick	N/A	Low
<i>Berberis thunbergii</i>	Japanese barberry	Initially thought to invade disturbed sites (old fields, roadsides, etc.), now known to invade high quality habitats (closed canopy forests), ecosystem impacts include changes in soil nitrate concentrations.	Moderate
<i>Celastrus orbiculatus</i>	Asiatic bittersweet	Reduces system-wide light levels and alters community structure and composition by over-topping existing vegetation and shading lower layers, invades a number of habitat types including meadows, forest edges, and disturbed forests, seeds are dispersed by birds, species is used for ornamental purposes.	High
<i>Centaurea stoebe</i>	Spotted knapweed	-	Low
<i>Cirsium arvense</i>	Canada thistle	Widespread species, ecosystem effects include: greater density, extensive root system and chemical fluids.	Moderate
<i>Cirsium vulgare</i>	Bull thistle	Widespread species, found in common habitats, minimal impact in natural areas, may significantly alter forage for grazers.	Low
<i>Coronilla varia</i>	Crownvetch	Widespread species, nitrogen-fixer, outcompetes natives, impacts high quality native occurrences.	Moderate
<i>Elaeagnus umbellata</i>	Autumn olive	Nitrogen-fixer, creates dense thickets & shades natives, invades old fields and wetlands, once an ornamental.	Low
<i>Euonymus alatus</i>	Burning bush	Popular species, widely planted shrub, spreads into adjacent natural areas by birds eating the fruits, creates dense shrub layer and shades lower layer natives.	Low

**Table 4-2: Invasive Plant Species Present in 2011**

<i>Scientific Name</i>	<b>Common Name</b>	<b>I-Rank Summary</b>	<b>Overall Density on Fort Meade</b>
<i>Hedera helix</i>	English ivy	Negatively affects forest biodiversity, popular landscaping plant.	Low
<i>Humulus japonicus</i>	Japanese hops	Annual to short-lived perennial vine, predominantly invades disturbed habitats including waste places, roadsides, riverbanks, forest edges, old fields & floodplains, can become dense stands that outcompete natives, may create shade & "smother" woody species.	Low
<i>Ligustrum vulgare</i>	Wild privet	Extremely aggressive and escapes from cultivation, forms dense thickets to crowd natives, occurs in disturbed areas, birds can spread seeds far from plants, colonizes by root sprouts.	Moderate
<i>Lonicera japonica</i>	Japanese honeysuckle	Can have extremely negative consequences for forest communities and structure.	High
<i>Lonicera tatarica</i>	Bush honeysuckle	Canopy disturbance reducing native tree seedlings, migratory birds disperse seeds and fruit.	Low
<i>Microstegium vimineum</i>	Nepalese browntop	Slow to invade undisturbed areas, but spreads quickly and forms dense populations, habitats include: stream banks, floodplains, wetlands, moist forests, fields and roadways, doesn't need much light to grow, impacts ground nesting birds and may alter soil conditions.	High
<i>Oplismenus hirtellus</i>	Wavyleaf basketgrass	N/A	Low
<i>Paulownia tomentosa</i>	Princess tree	Aggressive invader to many types of disturbed areas, able to infest some high-quality native habitats.	Low
<i>Perilla frutescens</i>	Beefsteak plant	First to colonize in disturbed areas, escapes and naturalizes in pastures, roadsides, disturbed urban/suburban areas and other low quality habitats, assume no serious impacts on native species.	Low
<i>Phragmites australis</i>	Common reed	Increases potential for marsh fires, forms dense mats to discourage native growth & habitat, degrades native wetlands, adapted to disperse along human utilized waterways.	Low
<i>Polygonum cuspidatum</i>	Japanese knotweed	Extremely competitive & aggressive invader of riparian & wetland habitats & low-quality sites, can replace native species & aquatic habitats.	Low
<i>Polygonum perfoliatum</i>	Mile-a-minute	Aggressive vine rapidly spreading, infests low-quality disturbed habitats, infestations may outcompete, cover and smother other vegetation.	High

<b>Table 4-2: Invasive Plant Species Present in 2011</b>			
<i>Scientific Name</i>	<b>Common Name</b>	<b>I-Rank Summary</b>	<b>Overall Density on Fort Meade</b>
<i>Populus alba</i>	White poplar	Commonly planted ornamental, wind dispersed seeds in natural areas where becomes dense and prevents native species growth.	Low
<i>Pyrus calleryana</i>	Bradford pear	Currently doesn't appear to be highly problematic, does appear to have potential for greater spread and effect.	Moderate
<i>Rosa multiflora</i>	Multiflora rose	Large distribution and is spreading, relatively easy to manage, low ecological impact, dense thickets to crowd out natives.	Moderate
<i>Rubus phoenicolasius</i>	Wineberry	Invades large variety of habitats, forms large/dense thickets which reduce light for ground-level vegetation.	Low
<i>Sorghum halepense</i>	Johnson grass	Severely inhibit pioneer grass species, massive stands of plant create difficulties for other plant establishment, self-pollinated, aggressive and wind dispersed, humans may disperse during field cultivation.	Low
<i>Wisteria sinensis</i>	Wisteria	Aggressive, weedy vine commonly invades disturbed areas.	Low

#### 4.9.2 Terrestrial Wildlife Resources

In 2013 Environmental Systems Analysis, Inc. (ESA, Inc.) conducted a study for fauna and wildlife populations, including breeding amphibians and a Burba Lake fisheries study. Most of the observed animal species are common to Anne Arundel County and the Central Maryland area. During the fauna study a total of 13 bird and 11 mammal species were identified (Table 4-3). During the amphibian breeding 11 reptile and amphibian species were identified (Table 4-4). The species observed during the 2013 survey were very similar to those found in 2009 during a flora and fauna survey performed by USACE (USACE, 2009).

<b>Table 4-3: Mammals and Birds Present in 2013</b>	
<i>Scientific Name</i>	<b>Common Name</b>
<i>Odocoileus virginianus</i>	Deer
<i>Procyon lotor</i>	Raccoon
<i>Sciurus carolinensis</i>	Squirrel
<i>Urocyon cinereoargenteus</i>	Gray fox
<i>Homo sapien</i>	Person
<i>Didelphimorphia</i>	Opossum
<i>Lepus curpaeums</i>	Rabbit
<i>Zenaida macroura</i>	Mourning dove
<i>Vulpes vulpes</i>	Red fox
<i>Anas platyrhynchos</i>	Mallard
<i>Butorides virescens</i>	Green heron
<i>Cardinalis cardinalis</i>	Cardinal
<i>Agelaius phoeniceus</i>	Redwing blackbird
<i>Felis catus</i>	Domestic cat
<i>Cyanocitta cristata</i>	Blue jay

<i>Scientific Name</i>	<b>Common Name</b>
<i>Quiscalus quiscula</i>	Grackle
<i>Passeridae</i> sp.	Sparrow
<i>Fringillidae</i> sp.	Finch
<i>Branta canadensis</i>	Canada goose
<i>Corvus brachyrhynchos</i>	American crow
<i>Marmota monax</i>	Groundhog
Species unknown	Mouse
<i>Dumetella carolinensis</i>	Catbird
<i>Turdus migratorius</i>	Robin

<i>Scientific Name</i>	<b>Common Name</b>
<i>Pseudacris crucifer</i> (frog)	Spring peeper
<i>Lithobates clamitans melanota</i> (frog)	Northern green frog
<i>Rana sylvatica</i> (frog)	Wood frog
<i>Acris crepitans</i> (frog)	Eastern cricket frog
<i>Lithobates sphenoccephalus</i> (frog)	Southern leopard frog
<i>Bufo americanus</i> (toad)	American toad
<i>Ambystoma opacum</i> (salamander)	Marbled salamander
<i>Ambystoma maculatum</i> (salamander)	Spotted salamander
<i>Terrapene carolina</i> (turtle)	Eastern box turtle
<i>Chelydra serpentina</i> (turtle)	Common snapping turtle
<i>Eumeces fasciatus</i> (lizard)	Five-lined skink

### 4.9.3 Rare, Threatened and Endangered Species

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.

A rare, threatened and endangered (RTE) plant species survey was performed in 2013 by EEE Consulting, Inc. (EEE, 2014). No federally-listed plants were documented on Fort Meade. Two of the previously identified state-listed RTE species were found during the 2013 survey: American chestnut (*Castanea dentata*) and dwarf azalea (*Rhododendron atlanticum*). One Maryland Watch List plant, *Anaphalis margaritacea* was found within the Firing Range Powerline and the Range Road Corridor and one Maryland State Rare/Watch List plant, *Bidens coronata* was found within the Firing Range Powerline. All RTE plant species observed during the 2013 survey are presented in Table 4-5.

Table 4-5: RTE Plant Species Present in 2013					
Species	Location				
	Range Road Corridor	Range Road Obstacle Course	Rock Avenue Shrub Swamp	Firing Range Powerline	Berman Tract
<i>Anaphalis margaritacea</i> Western pearly everlasting	X	---	---	X	---
<i>Castanea dentata</i> American chestnut	---	X	---	---	---
<i>Bidens coronata</i> Crowned beggarticks	---	---	---	X	---
<i>Juncus torreyi</i> Torrey's rush	---	---	---	---	X
<i>Rhynchospora microcephala</i> Tiny-headed beakrush	---	---	---	---	X

During a 2013 study for fauna and wildlife populations (ESA, 2014) Environmental Systems Analysis, Inc. (ESA) provided updates on the glassy darter (*Etheostoma vitreum*) and northern long-eared bat (*Myotis septentrionalis*). The glassy darter was observed and documented in previous fish surveys conducted for Fort Meade, from 1992 through 2004. The glassy darter has been identified as occurring on-base, within the 9500 Tract of the Little Patuxent River and immediately downstream and off-site, below Route 198 (Fort Meade Laurel Road), in-stream fish ladder.

Effective 4 May 2015, the USFWS added the northern long-eared bat (NLEB) to the list of threatened species under the Endangered Species Act of 1973. The USFWS attributes the decline of this species due to white-nose syndrome. Fort Meade lies within the eastern range of the NLEB and contains potentially suitable habitat, mixed hardwood forests over three inches diameter at breast height, for summer roost trees. The presence/absence of the NLEB on Fort Meade is currently unknown, although an unconfirmed survey detected the presence of the bat on a neighboring parcel. Fort Meade anticipates surveying for the NLEB in FY16. USFWS does not have data that confirms the presence of NLEB hibernacula and/or summer roost trees in Anne Arundel County. Fort Meade has started an informal consultation with the USFWS Chesapeake Bay Field Office. Additionally, Installation Management Command (IMCOM) signed a Programmatic Agreement (PA) with the USFWS Region 3 on 4 May 2015 which assumes the presence of the NLEB during its roosting season.

#### 4.9.4 Migratory Birds

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.

A total of 25 migratory birds were identified in the project area by USFWS (Table 4-6).

<b>Table 4-6: Migratory Birds within Project Area</b>	
<i>Scientific Name</i>	<b>Common Name</b>
<i>Ammodramus caudacutus</i>	Saltmarsh sparrow
<i>Ammodramus nelsoni</i>	Nelson's sparrow
<i>Asio flammeus</i>	Short-eared owl
<i>Botaurus lentiginosus</i>	American bittern
<i>Calidris canutus rufa</i>	Red knot
<i>Calidris maritima</i>	Purple sandpiper
<i>Coccyzus erythrophthalmus</i>	Black-billed cuckoo
<i>Dendroica cerulea</i>	Cerulean warbler
<i>Dendroica discolor</i>	Prairie warbler
<i>Egretta thula</i>	Snowy egret
<i>Euphagus carolinus</i>	Rusty blackbird
<i>Gelochelidon nilotica</i>	Gull-billed tern
<i>Haematopus palliatus</i>	American oystercatcher
<i>Haliaeetus leucocephalus</i>	Bald eagle
<i>Helmitheros vermivorum</i>	Worm eating warbler
<i>Hylocichla mustelina</i>	Wood thrush
<i>Ixobrychus exilis</i>	Least bittern
<i>Limnodromus griseus</i>	Short-billed dowitcher
<i>Limosa fedoa</i>	Marbled godwit
<i>Melanerpes erythrocephalus</i>	Red-headed woodpecker
<i>Oporornis formosus</i>	Kentucky warbler
<i>Passerella iliaca</i>	Fox sparrow
<i>Podilymbus podiceps</i>	Pied-billed grebe
<i>Protonotaria citrea</i>	Prothonotary warbler
<i>Vermivora pinus</i>	Blue-winged warbler

#### 4.9.5 Aquatic Resources

A total of five species and 422 fish were collected as part of the ESA, Inc. Burba Lake survey effort (ESA, Inc., 2014). The most abundant species collected was bluegill (*Lepomis macrochirus*), followed by green sunfish (*Lepomis cyanells*), redear sunfish (*L. microlophus*), mosquito fish (*Gambusia affinis*) and largemouth bass (*Macropterus salmoides*), in descending order of abundance.

#### 4.9.6 Wetlands

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.

Wetlands, as defined by the USEPA and the USACE, are “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (USACE, 1987).

Fort Meade has approximately 215 acres of wetland, most of which occur along the Little Patuxent River floodplain in the southwestern portion of the installation and along Midway Branch, Franklin Branch and their tributaries. Most of the wetlands on Fort Meade are palustrine forested along the Little Patuxent River and in the northwestern portion of Fort Meade. There are two wetland mitigation areas in Site S, a former landfill.

Biological resources near the proposed project site 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 site provides wildlife habitat. During a 20 November 2014 site visit, white-tailed deer (*Odocoileus virginianus*) were observed near the site. The site also has invasive species such as Callery pear (*Pyrus calleryana*).

#### **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.

The most recent ICRMP for Fort Meade was prepared in 2011 by the Baltimore District of the USACE (USACE, 2011). 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 has been investigated for the presence of archaeological resources. No archaeological resources were identified in the proposed project area. Five archaeological sites were identified to the north and west. 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 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 the proposed project area. The site has an associated family cemetery. The archaeological site was evaluated for National Register eligibility in 2012. The archaeological site was determined ineligible for National Register listing (Fugate and Burden, 2012). The Downs Cemetery was evaluated for NRHP eligibility in 2006 and was found ineligible. There will be no direct impacts to the cemetery from construction of the facility. Family access will be maintained during construction and after 175<sup>th</sup> NWS occupation of the property. Fort Meade has recently decided to move the interments in the Down Cemetery and reinter them in the active Bethel Cemetery on Rock Avenue. All disinterment and reinterment activities will be conducted in accordance with applicable Maryland state law regarding cemetery relocation.

The archaeological investigation of Sites 18AN930 and 18AN931 revealed the presence of Site 18AN1240, which had not been located during previous Phase I investigations. 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 the proposed project site. 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.

No architectural historic properties are located in the proposed project area, nor are any located within the viewshed of the proposed project. The nearest historic architectural properties to the project area are buildings associated with the National Register eligible Fort Meade Historic District, located over 2,000 feet to the southeast.

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 the proposed project area. The two possible cemeteries are located near where the 3<sup>rd</sup> hole of the former Parks Golf Course was located and where the 5<sup>th</sup> hole of the former Applewood Golf Course was located. 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.

#### **4.11 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 serious 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.

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) (SAIC, 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 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 polychlorinated biphenyl (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 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 fiscal year (FY) 2015. 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.

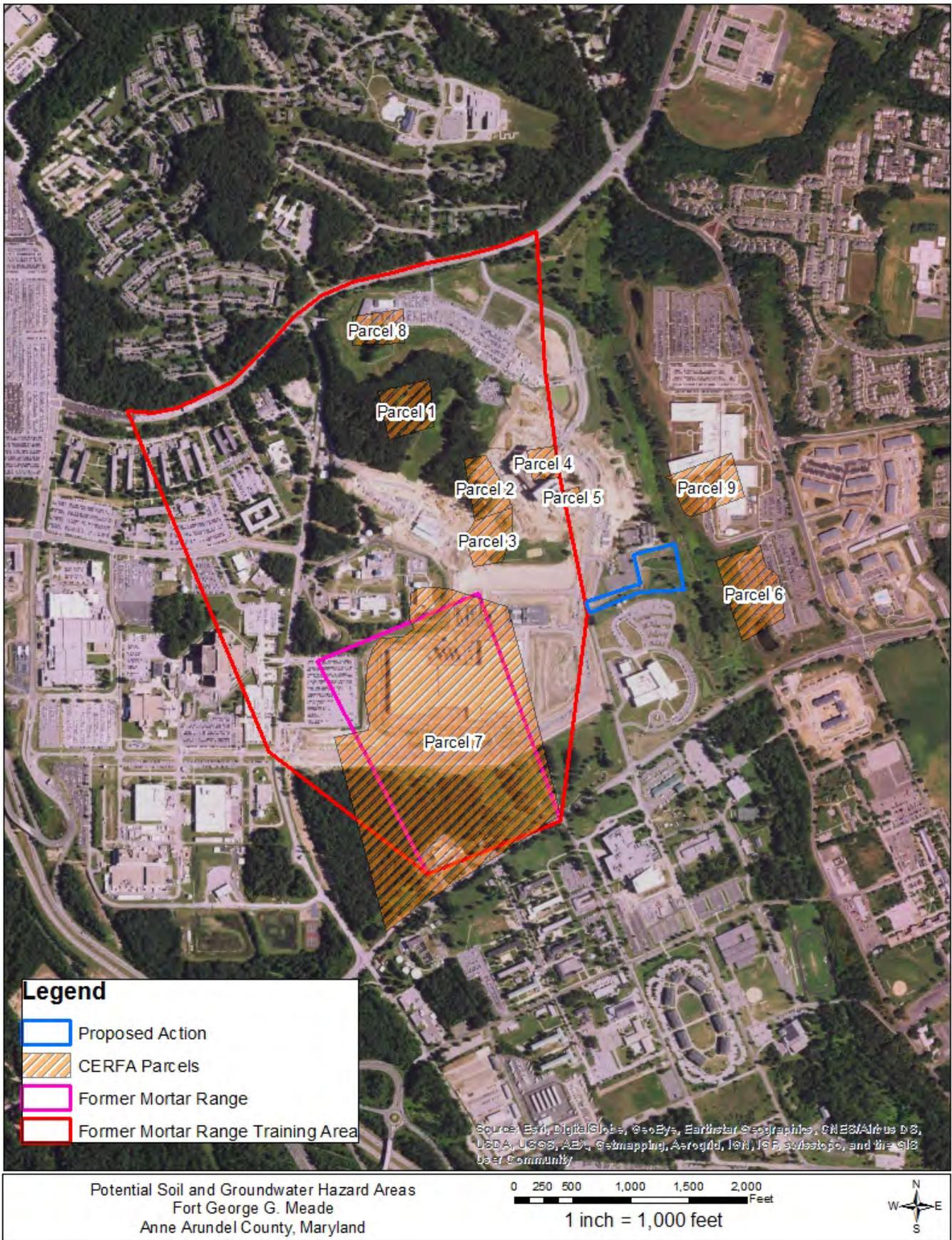
The DoD established the Installation Restoration Program (IRP) in 1975 to provide guidance and funding for the investigation and remediation of hazardous waste sites caused by historical disposal activities at military installations. The fundamental goal of the Fort Meade IRP is to protect human health, 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.

The proposed location for the new facility is 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". The proposed location is adjacent to the Former Mortar Range MRA. An unexploded ordnance (UXO) survey has been conducted which encountered and removed metal dummy mortar shell and small arm rounds in boxes. The potential for UXO being present on-site is low. UXO construction support is not required during excavation.

Under the IRP program, a risk analysis was performed at several parcels around the proposed project area (Figure 4-4) and determined that there were no soil risks and minimal hazards to groundwater. These parcels were identified based on Community Environmental Response Facilitation Act (CERFA) categorization scheme and review of installation documents (USACE, 2004).

#### **4.12 TRAFFIC AND ROADWAYS**

The most recent traffic analysis performed for Fort Meade was conducted in 2014 by Trammell Crow Company for the Fort Meade Enhanced Use Lease (TCC, 2014). The objective of the analysis was to evaluate the impact the proposed development will have on the road network in the vicinity of the subject site. The results of the analysis indicated that while current traffic conditions were well within acceptable levels, some capacity constraints were projected under both background and total traffic conditions at the key intersection, MD Route 175 at Reece Road.



**Figure 4-4: Potential Soil and Groundwater Hazard Areas**

The most recent traffic analysis within the vicinity of the proposed project site was conducted in 2012 for the ARCYBER Command and Control Facility Environmental Assessment. This analysis includes traffic and roadways that provide local and regional access to proposed project site. 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 ROI for traffic and transportation encompasses the major intersections within the vicinity of the action alternatives located at Fort Meade. The ROI for Fort Meade includes 16 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.

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, and
- 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 4-7 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.

<b>Table 4-7: Intersection Level of Service Summary, Existing Conditions at Fort Meade, Maryland</b>					
<b>ID</b>	<b>Intersection</b>	<b>Traffic Control</b>	<b>Peak Hour</b>	<b>Existing</b>	
				<b>Delay (a)</b>	<b>LOS (b)</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
4	Mapes Rd./6th Armored Cavalry Rd.	Two-Way Stop	AM	28.5	D
			PM	172.1	F

<b>Table 4-7: Intersection Level of Service Summary, Existing Conditions at Fort Meade, Maryland</b>					
<b>ID</b>	<b>Intersection</b>	<b>Traffic Control</b>	<b>Peak Hour</b>	<b>Existing</b>	
				<b>Delay (a)</b>	<b>LOS (b)</b>
5	Mapes Rd./Zimborski Ave.	Two-Way Stop	AM	ECL	<b>F</b>
			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	<b>E</b>
			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	<b>F</b>
			PM	85.6	<b>F</b>
10	Mapes Rd./Annapolis Rd.	Signal	AM	57.6	<b>E</b>
			PM	55.2	<b>E</b>
11	Reece Rd./Annapolis Rd.	Signal	AM	31.6	C
			PM	26.1	C
12	Rockenbach Rd./Annapolis Rd.	Signal	AM	64.5	<b>E</b>
			PM	57.7	<b>E</b>
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.

The site of the Proposed Action is located northeast of the Mapes Rd/Taylor Avenue intersection. Mapes Road is a 2-lane undivided roadway and the Mapes Rd/Taylor Avenue intersection is signalized with dedicated turning lanes. The nearest entrance and exit point for the proposed location is Gate 1 located at Mapes Road and MD Route 32.

## 4.13 INFRASTRUCTURE AND UTILITIES

### 4.13.1 Potable Water

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).

#### **4.13.2 Domestic and Industrial Wastewater**

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.

#### **4.13.3 Electric and Gas**

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).

#### **4.13.4 Telecommunications**

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

#### **4.13.5 Solid Waste Management**

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.

#### **4.14 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN**

The Region of Influence (ROI) for socioeconomic impacts is defined for Fort Meade as Anne Arundel County, Maryland. Socioeconomic data are provided in this section to establish baseline conditions. Data consist primarily of publicly-available information about Anne Arundel and to provide perspective with regard to the State of Maryland.

In February, 1994 President Clinton signed Executive Order 12898, entitled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” This EO 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.

As of 2014, Anne Arundel County had an estimated population of 560,133. Anne Arundel County has a lower minority population than Maryland, but greater than the nation as a whole. In 2014, the population of Anne Arundel County was 76.1 percent White, 16.6 percent Black, 3.9 percent Asian, 7.2 percent Hispanic or Latino, 0.4 percent American Indian or Native Alaskan, and 0.1 percent Native Hawaiian or Other Pacific Islander. (Census, 2014)

Anne Arundel County had a total of 203,775 households in 2014; 68.2% of those households were families. The average household size was 2.68 persons per household. At \$87,217, Anne Arundel County had a higher median household income than both the United States (\$53,657) and Maryland (\$73,971). Four percent of Anne Arundel County’s families and 6.1% of the total population lived below the poverty line in 2014, rates lower than Maryland and the Nation. (Census, 2014)

The population 16 years and over in Anne Arundel County was 446,544 in 2014, and 70.9% of that population was in the labor force. Lower than the United States (7.2%) and Maryland (7.2%), 5.7% of those in the county workforce were unemployed. (Census, 2014)

According to the Ft. Meade website, Ft. Meade itself supports a population of 143,745 with around 52,000 employees working on post. It is the largest employer in Maryland. Of those employees, 28% are military, 17% are contractors, and 55% are civilian. (Fort Meade, 2015)

Fort Meade does not meet the definition of having a minority or impoverished population that could be impacted disproportionately. No children reside or play in areas where the Proposed Action would be accomplished.

## 5.0 ENVIRONMENTAL CONSEQUENCES

This section identifies and evaluates the anticipated environmental impacts associated with implementing the Proposed Action, as well as the No Action alternative.

Under the No Action alternative, the 175<sup>th</sup> NWS would not construct or operate a new facility at Fort Meade.

The nature of impacts 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 to the resource. Impacts are also described as direct or indirect. A direct impact is an immediate result of an activity. An indirect impact arises from a project activity at the secondary level.

The duration of an impact can be temporary or permanent.

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 Proposed Action**

Implementation of the Proposed Action 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 due to converting an undeveloped area in close proximity to the primary stream/drainage on Fort Meade to an administrative/developed area. The action would bring only approximately 19 more workers to the installation, so, if necessary, the nearby communities are capable of providing the housing and support for the small 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 the Proposed Action would result in construction 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, the Proposed Action would not introduce incompatibilities with adjacent land use areas. Therefore, implementation of the Proposed Action 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 the Proposed Action.

### **5.1.2 No Action**

Implementation of the No Action alternative would not alter the existing land use on Fort Meade.

## **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 Proposed Action**

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 the Proposed Action 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 is consistent with other previous and future development in the vicinity and 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 the Proposed Action would be minor.

### **5.2.2 No Action**

Implementation of the No Action alternative would not alter the existing visual or aesthetic values at Fort Meade.

## **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 Proposed Action**

Under the Proposed Action, 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<sub>10</sub> 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 B contains a list of estimated equipment required for construction, estimates of workforce requirements, along with the emission calculations for all construction activities under the Proposed Action. Based on the air quality analysis for the Proposed Action, the maximum estimated emissions would be below conformity *de minimis* levels as depicted in Table 5-1. A Record of Non-Applicability (RONA) has been prepared and can be located at Appendix B.

<b>Table 5-1: Estimated Emissions from Implementation of the Proposed Action</b>						
Estimated Emissions	Emissions (tons/year)					
	CO <sub>2</sub>	VOCs <sup>1</sup>	NO <sub>x</sub> <sup>1</sup>	SO <sub>x</sub> <sup>2</sup>	PM <sub>10</sub> <sup>2</sup>	PM <sub>2.5</sub> <sup>1</sup>
Construction Emissions	6.95	1.89	16.15	0.02	1.35	0.90
Annual Operational Emissions (Work Force Emissions) for 19 additional personnel (tons/year)	1.02	0.04	0.10	0.00	0.01	0.01
<b>Total Emissions from Implementation of Proposed Action</b>	<b>7.97</b>	<b>1.93</b>	<b>16.25</b>	<b>0.02</b>	<b>1.36</b>	<b>0.90</b>
<i>de minimis</i> threshold	NA	50	100	NA	NA	100
<b>Exceeds <i>de minimis</i> threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Note: <sup>1</sup> The ROI is a nonattainment area for the 8-hour O<sub>3</sub> NAAQS (VOCs and NO<sub>x</sub> are precursors to the formation of O<sub>3</sub>), and is in nonattainment of the PM<sub>2.5</sub> NAAQS. *de minimis* thresholds are defined in 40 CFR 93 Section 153. VOC *de minimis* established for nonattainment areas located in an O<sub>3</sub> transport area.

<sup>2</sup> *de minimis* thresholds are not applicable to NAAQS attainment areas. NA = Not Available.

Sources: USEPA 2012.

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. The Proposed Action does not have a generator in the design.

#### 5.3.1.1 Greenhouse Gas Emissions

GHG emissions would be below the 25,000 metric tons of CO<sub>2e</sub> level proposed in the draft NEPA guidance by the CEQ (CEQ, 2014). 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.

#### 5.3.2 No Action

Under the No-Action Alternative, the proposed 175<sup>th</sup> NWS Facility would not be constructed and existing conditions at Fort Meade 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 5-2 provides a representation of construction noise levels associated with 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.

<b>Table 5-2: Typical Noise levels of Construction Equipment (noise Level in dBA at 50 Feet)</b>	
<b>Construction Vehicle Type</b>	<b>dBA</b>
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 Proposed Action**

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 the Proposed Action.

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 No Action**

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

### **5.5 GEOLOGY AND SOILS**

The Proposed Action would result in localized changes to topography at the construction site as a result of earthmoving activities (clearing and grading) associated with site preparation. 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. There will be no impacts to Prime and Unique Farmland soils.

### **5.5.1 Proposed Action**

The implementation of the Proposed Action is expected to have short-term and long-term minor adverse impacts on approximately 4.5 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, parking facilities and access roads. 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 would be employed and may 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 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 13693, *Planning for Federal Sustainability in the Next Decade*, 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.

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

### **5.5.2 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 the Proposed Action is not expected to impact groundwater resources, and therefore groundwater resource impacts are not discussed below.

### **5.6.1 Proposed Action**

#### **5.6.1.1 Surface Water**

No impacts to surface water resources are expected. The Proposed Action has been designed to avoid encroaching within the 100 foot stream buffer. 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.

#### **5.6.1.2 Stormwater**

It is expected that stormwater management will be required as the amount of impervious area will increase due to the proposed improvements. The stormwater management plan will be in accordance with MDE requirements. The Maryland Stormwater Design Manual requires that stormwater management be accomplished with small-scale stormwater management practices and non-structural techniques to mimic the natural hydrologic runoff characteristics to the maximum extent practicable. To meet this requirement, micro-bioretenion areas, disconnected rooftop runoff and stormwater ponds will be used to satisfy the local and state requirements for water quality, recharge, channel protection and overbank flood protection volumes. By applying these measures, it is not anticipated that there would be any significant impacts (short or long term) on stormwater.

These stormwater practices will also be designed to meet the Energy Independence and Security Act Section 438 which states that “the sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume and duration of flow.”

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 No Action**

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

## **5.7 FLOODPLAINS**

### **5.7.1 Proposed Action**

The Proposed Action is not located within a 100- or 500-year floodplain, but is within close proximity. No impacts to floodplains would occur from implementation of the Proposed Action.

### **5.7.2 No Action**

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

## **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 Proposed Action**

Implementation of the Proposed Action is expected to be consistent with Maryland’s enforceable policies. An Erosion and Sediment Control Plan (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 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 Fort Meade's ability to meet obligations outlined in their INRMP.

As there are no wetlands within the project area, this resource has not been analyzed below. No impacts to this resource are expected. No impacts to aquatic habitats are expected from the Proposed Action as the project has been designed to avoid encroaching within the 100 foot stream buffer.

### **5.9.1 Proposed Action**

#### **5.9.1.1 Vegetation**

Minor short-term and long-term adverse impacts to vegetation in the area would be anticipated as a result of the Proposed Action. 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 the project site. Temporary impacts to vegetation would not be significant. Permanent removal of approximately 4.5 acres of vegetative habitat would have a long-term minor adverse impact to vegetation 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. Fort Meade FCA requirements demonstrate compliance with the Maryland CZMA.

Due to the MDE tree replacement requirements, tree removal will be minimized. Additionally, no disturbance will occur within the 100-foot stream buffer per Fort Meade Water Quality requirements.

Landscaping will be primarily comprised of native plant species. Trees will be integrated into the interior of parking lots, covering approximately 10 percent of the cumulative area of parking spaces, drive aisles and loading spaces. Disturbed areas will be sodded within fifteen feet of the building and outlying areas will be seeded and mulched. A Forest Conservation Plan will be

required to be submitted to the Fort Meade Directorate of Public Works Environmental Division for approval. No Forest Stand Delineation will be required by Fort Meade for this project.

The 175<sup>th</sup> NWS will identify and control all invasive species on the project site (including potential restoration areas) prior to acceptance from the Directorate of Public Works. This will assist the Army to remain in compliance with the Invasive Species EO 13112.

#### 5.9.1.2 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 wildlife at the site, resulting in loss of wildlife habitat; however, suitable habitat exists nearby.

#### 5.9.1.3 Rare, Threatened or Endangered Species

Due to the listing of NLEB, the Fort Meade DPW-ED will require project proponents to comply with written guidance drafted by the Chesapeake Bay Field Office and/or agreed to in the IMCOM PA. This guidance is in progress. Currently, all correspondence regarding NLEB shall be routed through the DPW-ED prior to submission to USFWS. IMCOM has determined that all activities that occur on “sites within highly-developed urban areas that are not within 1,000 feet of suitable forested/wooded habitat” will have “no effect on the NLEB.” In accordance with the PA, at this time we understand that the Proposed Action will have no effect on the NLEB. This is due to the scope and size of the project, minimal tree removal, and the fact that the project site is located more than 1,000 feet from suitable forested habitat for NLEB.

### **5.9.2 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 area. 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 location at Fort Meade; 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 Fort Meade’s cultural resource manager in accordance with Fort Meade’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 to Fort Meade's policies and procedures as well as state and Federal regulations for storage, handling and disposal of hazardous wastes.

### **5.11.1 Proposed Action**

No impacts to HTRS are expected from implementation of the Proposed Action. 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.

The Proposed Action is located adjacent to the Former Mortar Range Munitions Response Area (MRA). 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 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 the Proposed Action, based on the location of the Proposed Action, installation gate locations, existing traffic volumes and likely travel routes between the gates and proposed site.

### **5.12.1 Proposed Action**

During the 2012 ARCYBER traffic study, baseline conditions for 2016 were established. The revised baseline conditions assume an increase in traffic and transportation improvements and no noticeable degradation of traffic LOS over what was described in Section 4. 175<sup>th</sup> NWS personnel are currently occupying temporary borrowed desks in multiple buildings throughout USCYBERCOM and NSA campus at Fort Meade.

### **5.12.2 No Action**

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

## **5.13 INFRASTRUCTURE AND UTILITIES**

### **5.13.1 Proposed Action**

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.

Fort Meade's current water system is capable of handling the additional approximately 20 workers. 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 Proposed Action 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. 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.

Utility power service will be obtained from Baltimore Gas and Electric. It is anticipated that primary power will be extended underground from an existing utility transformer located near the Clubhouse/Conference Center building, to a new utility pad mounted transformer at the new building. The Proposed Action 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.

Primary cooling of the SCIF area will be provided by one 12,000 cubic feet per minute (cfm) variable air volume (VAV) indoor air handling unit coupled with one 300 ton outdoor air cooled condensing unit. Ventilation will be provided with a 1,500 cfm air to air energy recovery ventilation (ERV) unit. Supply and return air ductwork, VAV boxes, diffusers and grille will provide air distribution.

Primary cooling of the Unclassified Administrative areas will be provided by one 3,000 cfm VAV indoor air handling unit coupled with one 7.5 ton outdoor air cooled condensing unit. Ventilation will be provided with a 500 cfm air to air ERV unit. Supply and return air ductwork, VAV boxes, diffusers and grille will provide air distribution.

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 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**

Socioeconomic considerations typically include 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.

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 Proposed Action**

#### **5.14.1.1 Socioeconomics**

This EA has identified no adverse impacts to socioeconomics on or around Fort Meade.

#### 5.14.1.2 Environmental Justice

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

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.

#### 5.14.1.3 Protection of Children

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

### **5.14.2 No Action**

Under the No-Action Alternative, the proposed 175<sup>th</sup> NWS Facility would not be constructed and operated. Existing conditions in Anne Arundel County would be unchanged. No impacts to socioeconomic conditions, environmental justice or protection of children would occur.

## **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.

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 175<sup>th</sup> NWS facility site in particular are considered potential cumulative actions for this project; those projects are listed in Table 5-3.

<b>Table 5-3: Cumulative Actions at Fort Meade, Maryland</b>		
<b>Project</b>	<b>Description</b>	<b>NEPA Documentation</b>
Asymmetric Warfare Group (AWG) Compound and Motor Pool Site	Construction of an AWG Compound providing administrative, operational, and storage areas is underway, and construction of a Motor Pool Site (a vehicle maintenance facility). The AWG Compound is being constructed on a 46-acre parcel of land on Fort Meade 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 is underway. 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 granted Picerne a 50-year lease of approximately 45 acres of land on which Picerne has constructed and operates new garden-style apartments and associated facilities for single and unaccompanied personnel. The last section of apartments are currently being constructed.	EA

**Table 5-3: Cumulative Actions at Fort Meade, Maryland**

<b>Project</b>	<b>Description</b>	<b>NEPA Documentation</b>
East Campus	A portion of Fort Meade, known as Site M, is being developed as an operational complex for Intelligence Community use. Site M is currently a construction site. 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 is in the final stages of completion 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
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 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. An approximately 6,000 square-foot slab on grade Operations Center near the existing water treatment plant has been constructed.	EA
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
East Campus Integration Program at NSA	Construction and operation of 2,880,000 SF of new operational complex and headquarter space consisting of five buildings and supporting infrastructure within NSA’s 150-acre ECIP project area. Approximately 1.9 million SF of buildings and infrastructure on NSA Main Campus and the 9800 Troop Support Area.	EIS
Road Improvements Project at Fort Meade	Several road changes would be made at Fort Meade including the construction of access control points, road widening, moving intersections, construction of guard houses and the demolition of small buildings and existing roads and supporting infrastructure.	EA

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

### 5.15.3 Potential Cumulative Impacts by Environmental Resource Area

#### 5.15.3.1 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 the Proposed Action would be consistent with existing designated land uses and policies. Implementation of the Proposed Action would not contribute to any long-term significant adverse cumulative impacts.

#### 5.15.3.2 Visual Resources and Aesthetics

Implementation of the Proposed Action 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 5-3 would not substantially change the existing visual condition and would be consistent with proposed development for the area. Therefore, implementation of the Proposed Action would have no significant cumulative impact to visual resources and aesthetics.

#### 5.15.3.3 Air Quality

In terms of short-term cumulative impacts, new construction associated with the Proposed Action, 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 the Proposed Action would be below the 25,000 metric tons of CO<sub>2</sub>e 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 the Proposed Action would not be significant.

#### 5.15.3.4 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 5-3. Therefore, no significant cumulative impacts associated with the implementation of the Proposed Action are anticipated at this time.

#### 5.15.3.5 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 such as 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 the Proposed Action would not have any significant cumulative impacts on soils.

#### 5.15.3.6 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 the Proposed Action would not result in significant cumulative impacts on water resources.

#### 5.15.3.7 Floodplains

None of the projects listed in Table 5-3 are located within a 100- or 500-year floodplain. Therefore, there is no potential for cumulative impacts for implementation of the Proposed Action.

#### 5.15.3.8 Coastal Zone

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

#### 5.15.3.9 Biological Resources

The Proposed Action site location would be located within the open golf course in a developed area of the installation. Although there are ornamental, mature and early successional trees at the site, 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 5-3 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 the Proposed Action.

#### 5.15.3.10 Cultural Resources

No impacts to cultural resources would be anticipated from implementation of projects in Table 5-3; therefore, there is no potential for cumulative impacts for implementation of the Proposed Action.

#### 5.15.3.11 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 the Proposed Action.

#### 5.15.3.12 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 the Proposed Action. 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 the Proposed Action 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. Although the Proposed Action would only increase personnel at Fort Meade by approximately 20 people, combined, these projects could add more than 20,000 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.

#### 5.15.3.13 Infrastructure and Utilities

Implementation of the Proposed Action 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 Fort Meade, there would be no long-term impacts to sanitary sewer/wastewater facilities or electrical system. Cumulatively, the projects described in Table 5-3 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.

#### 5.15.3.14 Socioeconomics, Environmental Justice, and Protection of Children

Implementation of the Proposed Action 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 20,000 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 the Proposed Action 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 Action would have no impact on minority populations or low-income populations as defined in EO 12898. The Proposed Action and all other cumulative projects listed in Table 5-3 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.

#### **5.15.4 No Action**

Implementation of the No Action alternative would not result in any cumulative environmental impacts.

### **5.16 SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Table 5-4 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 and telecommunications from construction; 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.

Table 5-5 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 5-4: Summary of Potential Individual and Cumulative Effects on Environmental Resources**

<b>Resource</b>	<b>Proposed Action</b>	<b>No-Action Alternative</b>
Land Use	Short-term Minor Adverse Impacts	No Impacts
Visual and Aesthetic Value	Short-term and Long-term Minor Adverse Impacts	No Impacts
Air Quality	Short-term and Long-term Minor Adverse Impacts	No Impacts
Noise	Short-term Minor Adverse Impacts	No Impacts
Geology and Soils	Short-term and Long-term Minor Adverse Impacts	
Surface Waters	Possible Short-term Minor Adverse Impacts	No Impacts
Stormwater	Possible Short-term and Long-term Minor Adverse Impacts	No Impacts
Floodplains	No Impacts	No Impacts
Groundwater	No Impacts	No Impacts
Coastal Zone	No Impacts	No Impacts
Wetlands	No Impacts	No Impacts
Vegetation	Short-term and Long-term Minor Adverse Impacts	No Impacts
Wildlife Resources	Short-term and Long-term Minor Adverse Impacts	No Impacts
Rare, Threatened or Endangered Species	No Impacts	No Impacts
Aquatic Habitat	No Impacts	No Impacts
Cultural Resources	No Impacts	No Impacts
Hazardous, Toxic and Radioactive Substances	No Impacts	No Impacts
Traffic, Roadways and Transportation Systems	Short-term and Long-term Minor Adverse Impacts	No Impacts
Potable Water	Short-term Minor Adverse Impacts	No Impacts
Sanitary Sewer/Wastewater	Short-term Minor Adverse Impacts	No Impacts
Power	Short-term Minor Adverse Impacts	No Impacts
Solid Waste	Short-term and Long-term Minor Adverse Impacts	No Impacts
Socio-economic	Short-term and Long-term Minor Beneficial Impacts	No Impacts
Environmental Justice/Protection of Children	No Disproportionate Impacts	No Impacts
Cumulative Impacts	No Significant Impacts	No Impacts

**Table 5-5: Compliance with Federal Environmental Statutes and Executive Orders**

<b>Acts</b>	<b>Compliance</b>
Clean Air Act, as amended (42 United States Code [U.S.C.] ch. 85, subch. I §7401 et seq.)	FULL
Clean Water Act, as amended (33 U.S.C. ch. 23 §1151)	FULL
Coastal Zone Management Act (16 U.S.C. ch. 33 §1451 et seq.)	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 (16 U.S.C. ch. 35 §1531 et seq.)	FULL
Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e)	FULL
Migratory Bird Treaty Act (16 U.S.C §§703-712, et seq.)	FULL
National Environmental Policy Act of 1969 (42 U.S.C. §4321 et seq.)	FULL
National Historic Preservation Act of 1966, as amended (16 U.S.C. ch. 1A, subch.II §470 et seq.)	FULL
Noise Control Act of 1972, as amended (42 U.S.C. §§4901-4918, et seq.)	FULL
Resource Conservation and Recovery Act (42 U.S.C. ch. 82 §6901 et seq.)	FULL
Safe Drinking Water Act, as amended (42 U.S.C. §300f)	FULL
Toxic Substances Control Act of 1976 (15 U.S.C. ch.53, subch. I §§2601-2629)	FULL
Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. §1101, et seq.)	FULL
North American Wetlands Conservation Act (16 U.S.C. 4401-4412)	FULL
Sikes Act, as amended (16 U.S.C. 670a-670o)	FULL
Archaeological Resources Protection Act, as amended (16 U.S.C. §§470aa-470mm)	FULL
<b>Executive Orders (EO)</b>	
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
Invasive Species (EO 13112)	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

This Environmental Assessment (EA) has been prepared to analyze the potential environmental, cultural and socioeconomic effects associated with the construction and operation of a 175<sup>th</sup> Network Warfare Squadron (NWS) Facility at Fort Meade.

The Proposed Action includes the construction and operation of a new facility at Fort Meade to support the mission training of the 175<sup>th</sup> NWS. This facility would accommodate an anticipated workforce of up to 71 personnel. Once constructed, approximately 64 personnel already located at Fort Meade and approximately 7 personnel currently located at Martin State Airport would relocate to the new facility. The EA analyzes two courses of action: the Proposed Action and the No Action alternative.

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 proposed action; 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 and long-term minor adverse impacts to traffic; and short-term and long-term minor beneficial impacts to socioeconomics 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 the Proposed Action.

Table 5-10 summarizes the potential consequences that the Proposed Action and the No Action alternative would have on environmental resources. Table 5-11 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. 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
ARPA	Archaeological Resource Protection Act
AWG	Asymmetric Warfare Group
BG&E	Baltimore Gas and Electric
BMP	Best Management Practice
BRAC	Base Realignment and Closure
CAA	Clean Air Act
cfm	Cubic Feet Per Minute
CEQ	Council of Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CH <sub>4</sub>	Methane
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2e</sub>	Carbon Dioxide Equivalent
COMAR	Code of Maryland Regulations
CWA	Clean Water Act
CZM(A)	Coastal Zone Management (Act)
dBA	A-Weighted Decibel
DINFOS	Defense Information School
DISA	Defense Information System Agency
DMA	Defense Media Activity
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
EO	Executive Order
EPA	Environmental Protection Agency
ERV	Energy Recovery Ventilation
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
FY	Fiscal Year
GHG	Greenhouse Gas
GPM	Gallons Per Minute
GWP	Global Warming Potential
HEL	Highly Erodible Lands
HTRS	Hazardous, Toxic and Radioactive Substances
ICRMP	Integrated Cultural Resources Management Plan
IMCOM	Installation Management Command
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
LOS	Level of Service
MD	Maryland
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MGD	Million Gallons Per Day
MSDS	Material Safety Data Sheets
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCA	Noise Control Act
NEPA	National Environmental Protection Act
NHPA	National Historic Preservation Act
NLEB	Northern Long-Eared Bat
N <sub>2</sub> O	Nitrous Oxide
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
NOAA	National Oceanographic and Atmospheric Administration
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSA	National Security Agency
NSR	New Source Review

O <sub>3</sub>	Ozone
PA	Programmatic Agreement
PCB	Polychlorinated Biphenyl
PM	Particulate Matter
PM <sub>10</sub>	PM less than 10 microns in diameter
PM <sub>2.5</sub>	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
ROI	Region of Influence
RONA	Record of Non-Applicability
SAIC	Science Applications International Corporation
SARA	Superfund Amendments and Reauthorization Act
SCIF	Sensitive Compartmented Information Facility
SES	Senior Executive Service
SF	Square Foot (Feet)
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
SO <sub>x</sub>	Sulfur Oxides
SOP	Standard Operating Procedure
SPCCP	Spill Prevention Control and Countermeasures Plan
SWPPP	Storm Water Pollution Prevention Plan
TSCA	Toxic Substance Control Act
U.S.	United States
USACE	U.S. Army Corps of Engineers
USCYBERCOM	U.S. Cyber Command
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UXO	Unexploded Ordnance
VAV	Variable Air Volume
VOC	Volatile Organic Compound
WWTP	Waste Water Treatment Plant

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**APPENDIX A**  
**AGENCY COORDINATION**



# Public Notice

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## Environmental Assessment 175<sup>th</sup> Network Warfare Squadron Facility Fort George G. Meade, Maryland

**All Interested Parties:** On behalf of Fort George G. Meade (FGGM), 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 175<sup>th</sup> Network Warfare Squadron facility construction at Fort George G. Meade, Maryland (Fort Meade).

The Proposed Action to be evaluated in the EA includes construction of a new one-story facility covering 9,000 gross square feet, along with associated parking and access road, on approximately 4.5 acres (Enclosure 1). A majority of the facility will be classified as a Sensitive Compartmented Information Facility and adhere to the Technical Specifications for Intelligence Community Directive/Intelligence Community Standard 705. The facility will also include unclassified support space for conference, break rooms and restrooms. It is projected that the proposed facility would support approximately 84 personnel. Approximately 65 of the 84 personnel are already located at Fort Meade.

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.

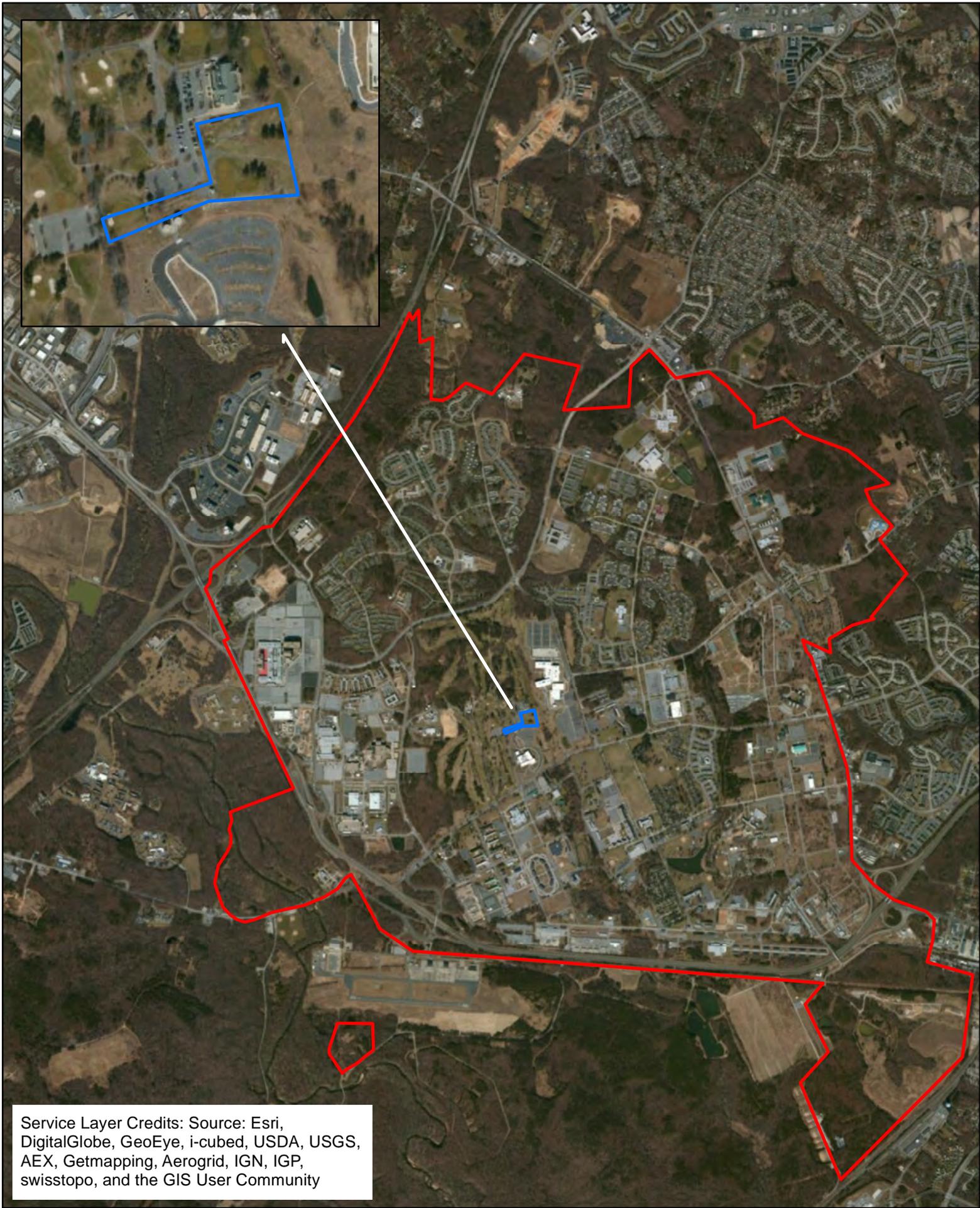
Interested parties are invited to submit written comments for consideration within 30 days of this notice. Any comments received will be considered in the preparation of the EA. This Public Notice is being distributed to organizations and individuals that are known to have an interest in this project (Enclosures 2). 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: IMME-PWE, 4216 Roberts Avenue, Suite 5115, Fort Meade, MD 20755-7068, Attn: Suzanne Teague, or email comments to [suzanne.m.teague.civ@mail.mil](mailto:suzanne.m.teague.civ@mail.mil). For questions, please contact Suzanne Teague, 301-677-9185.



Michael P. Butler  
Chief, Environmental Division

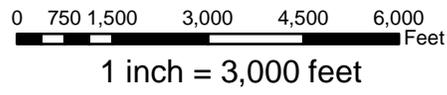
Date: 10 AUG 2015

Enclosures



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Enclosure 1: Proposed Action Location  
Fort George G. Meade  
Anne Arundel County, Maryland



**ENCLOSURE 2**  
**Public Notice Mail List**  
**Environmental Assessment**  
**175<sup>th</sup> Network Warfare Squadron 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 Boulevard  
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

Mr. J. Rodney Little  
State Historic Preservation Office  
Maryland Historic Trust  
100 Community Place  
Crownsville, MD 21032-2023

State of Maryland Dept. of Agriculture  
ATTN: Ms. Julianne Oberg  
Public Information Officer  
50 Harry S. Truman Parkway  
Annapolis, MD 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, MD 21202

**Regional and Local Offices**

Ms. Ginger Ellis  
Anne Arundel County Maryland  
Office of Environmental & Cultural Resources  
2664 Riva Road  
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 Road, 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  
4551 LLEWELLYN AVENUE, SUITE 5000  
FORT GEORGE G. MEADE, MARYLAND 20755-5000

REPLY TO  
ATTENTION OF:

IMME-PWE

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 Fort George G. Meade (FGGM), 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 175<sup>th</sup> Network Warfare Squadron facility construction at Fort George G. Meade, Maryland (Fort Meade). The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

The proposed action to be evaluated in the EA includes construction of a new one-story facility covering 9,000 gross square feet, along with associated parking and access road, on approximately 4.5 acres (Enclosure 1). A majority of the facility will be classified as a Sensitive Compartmented Information Facility and adhere to the Technical Specifications for Intelligence Community Directive/Intelligence Community Standard 705. The facility will also include unclassified support space for conference, break rooms and restrooms. It is projected that the proposed facility would support approximately 84 personnel. Approximately 65 of the 84 personnel are already located at Fort Meade.

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).

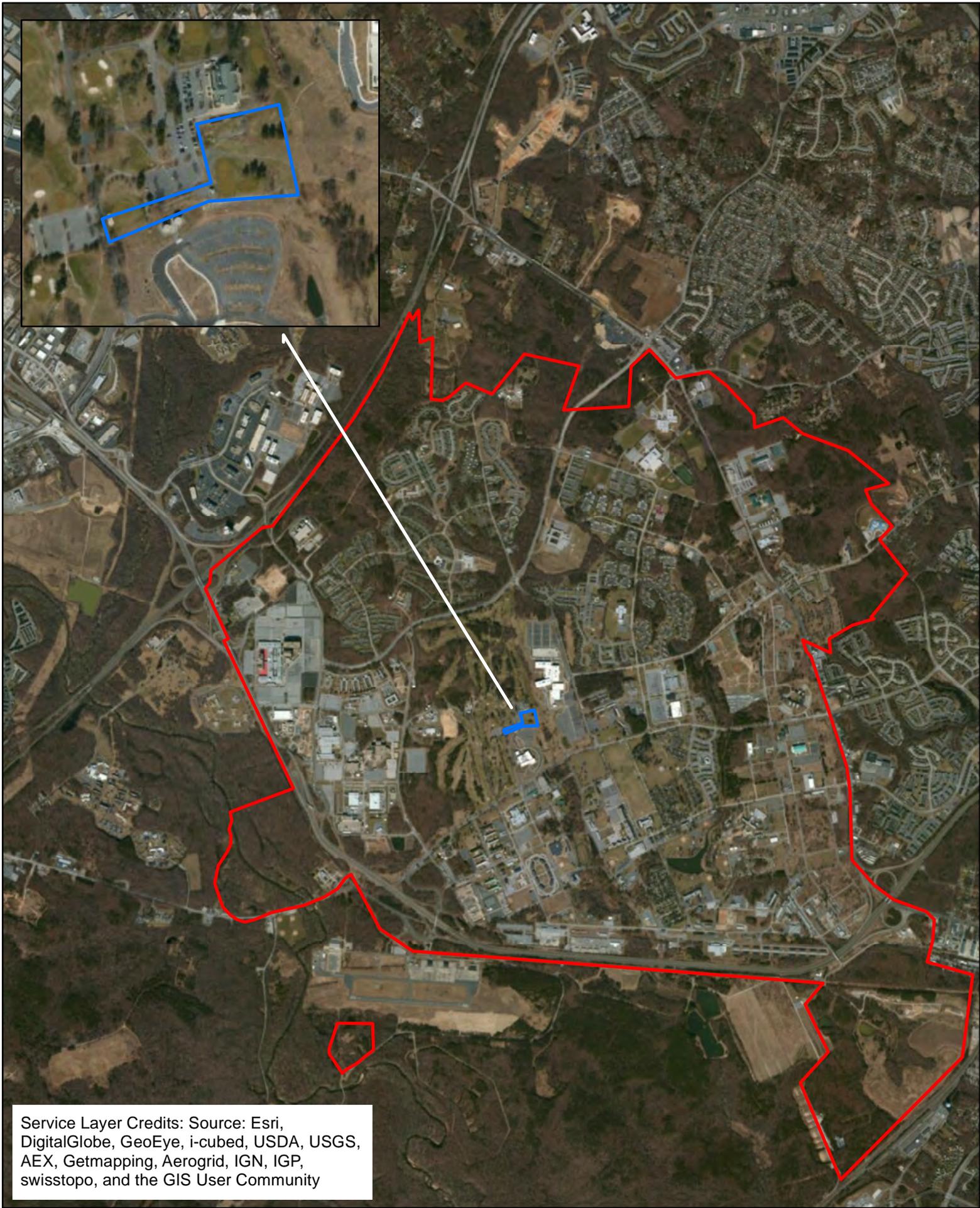
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Sincerely,

A handwritten signature in cursive script that reads "Michael P. Butler".

Michael P. Butler  
Chief, Environmental Division

Enclosure



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Enclosure 1: Proposed Action Location  
Fort George G. Meade  
Anne Arundel County, Maryland

0 750 1,500 3,000 4,500 6,000 Feet  
1 inch = 3,000 feet



# 175th NWS Facility

## *IPaC Trust Resource Report*

Generated September 29, 2015 11:48 AM MDT

This report is for informational purposes only and should not be used for planning or analyzing project-level impacts. For projects that require FWS review, please return to this project on the IPaC website and request an official species list from the Regulatory Documents page.



US Fish &amp; Wildlife Service

# IPaC Trust Resource Report



## Project Description

**NAME**

175th NWS Facility

**PROJECT CODE**

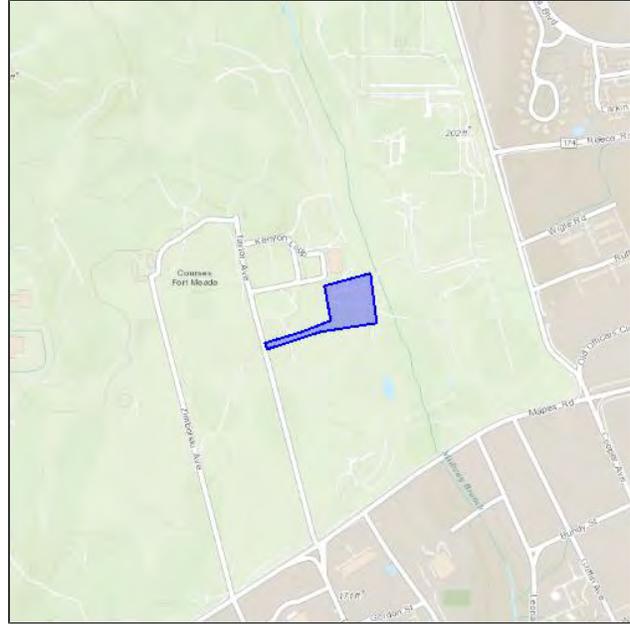
VI7XA-SK7AN-DQ3NI-NKTKM-5RK2KA

**LOCATION**

Anne Arundel County, Maryland

**DESCRIPTION**

No description provided



## U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

**Chesapeake Bay Ecological Services Field Office**

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

# Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the [Endangered Species Program](#) and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under [Section 7](#) of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an official species list on the Regulatory Documents page.

## Mammals

**Northern Long-eared Bat** *Myotis septentrionalis*

Threatened

CRITICAL HABITAT

**No critical habitat** has been designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=A0JE>

## Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

# Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

<p><b>American Oystercatcher</b> <i>Haematopus palliatus</i>            Year-round  <a href="https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0G8">https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0G8</a></p>	<b>Bird of conservation concern</b>
<p><b>American Bittern</b> <i>Botaurus lentiginosus</i>            Season: Wintering  <a href="https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0F3">https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0F3</a></p>	<b>Bird of conservation concern</b>
<p><b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i>            Year-round  <a href="https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B008">https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B008</a></p>	<b>Bird of conservation concern</b>
<p><b>Black-billed Cuckoo</b> <i>Coccyzus erythrophthalmus</i>            Season: Breeding  <a href="https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0HI">https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0HI</a></p>	<b>Bird of conservation concern</b>
<p><b>Blue-winged Warbler</b> <i>Vermivora pinus</i>            Season: Breeding</p>	<b>Bird of conservation concern</b>
<p><b>Cerulean Warbler</b> <i>Dendroica cerulea</i>            Season: Breeding  <a href="https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B09I">https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B09I</a></p>	<b>Bird of conservation concern</b>
<p><b>Fox Sparrow</b> <i>Passerella iliaca</i>            Season: Wintering</p>	<b>Bird of conservation concern</b>
<p><b>Gull-billed Tern</b> <i>Gelochelidon nilotica</i>            Season: Breeding  <a href="https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0JV">https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0JV</a></p>	<b>Bird of conservation concern</b>
<p><b>Kentucky Warbler</b> <i>Oporornis formosus</i>            Season: Breeding</p>	<b>Bird of conservation concern</b>
<p><b>Least Bittern</b> <i>Ixobrychus exilis</i>            Season: Breeding</p>	<b>Bird of conservation concern</b>
<p><b>Marbled Godwit</b> <i>Limosa fedoa</i>            Season: Wintering  <a href="https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0JL">https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B0JL</a></p>	<b>Bird of conservation concern</b>
<p><b>Nelson's Sparrow</b> <i>Ammodramus nelsoni</i>            Season: Wintering</p>	<b>Bird of conservation concern</b>

<b>Pied-billed Grebe</b> Podilymbus podiceps Season: Breeding	<b>Bird of conservation concern</b>
<b>Prairie Warbler</b> Dendroica discolor Season: Breeding	<b>Bird of conservation concern</b>
<b>Prothonotary Warbler</b> Protonotaria citrea Season: Breeding	<b>Bird of conservation concern</b>
<b>Purple Sandpiper</b> Calidris maritima Season: Wintering	<b>Bird of conservation concern</b>
<b>Red Knot</b> Calidris canutus rufa Season: Wintering <a href="https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=BODM">https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=BODM</a>	<b>Bird of conservation concern</b>
<b>Red-headed Woodpecker</b> Melanerpes erythrocephalus Year-round	<b>Bird of conservation concern</b>
<b>Rusty Blackbird</b> Euphagus carolinus Season: Wintering	<b>Bird of conservation concern</b>
<b>Saltmarsh Sparrow</b> Ammodramus caudacutus Year-round	<b>Bird of conservation concern</b>
<b>Short-billed Dowitcher</b> Limnodromus griseus Season: Wintering	<b>Bird of conservation concern</b>
<b>Short-eared Owl</b> Asio flammeus Season: Wintering <a href="https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=BOHD">https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=BOHD</a>	<b>Bird of conservation concern</b>
<b>Snowy Egret</b> Egretta thula Season: Breeding	<b>Bird of conservation concern</b>
<b>Wood Thrush</b> Hylocichla mustelina Season: Breeding	<b>Bird of conservation concern</b>
<b>Worm Eating Warbler</b> Helmitheros vermivorum Season: Breeding	<b>Bird of conservation concern</b>

## Refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

# Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

## DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

## DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

## DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands identified in this project area



**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:

**IMME-PWE**

Ms. Brigid E. Kenney  
Office of the Secretary  
Maryland Department of Environment  
1800 Washington Blvd.  
Baltimore, Maryland 21230

Dear Ms. Kenney:

On behalf of Fort George G. Meade (FGGM), 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 175<sup>th</sup> Network Warfare Squadron facility construction at Fort George G. Meade, Maryland (Fort Meade). The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

The proposed action to be evaluated in the EA includes construction of a new one-story facility covering 9,000 gross square feet, along with associated parking and access road, on approximately 4.5 acres (Enclosure 1). A majority of the facility will be classified as a Sensitive Compartmented Information Facility and adhere to the Technical Specifications for Intelligence Community Directive/Intelligence Community Standard 705. The facility will also include unclassified support space for conference, break rooms and restrooms. It is projected that the proposed facility would support approximately 84 personnel. Approximately 65 of the 84 personnel are already located at Fort Meade.

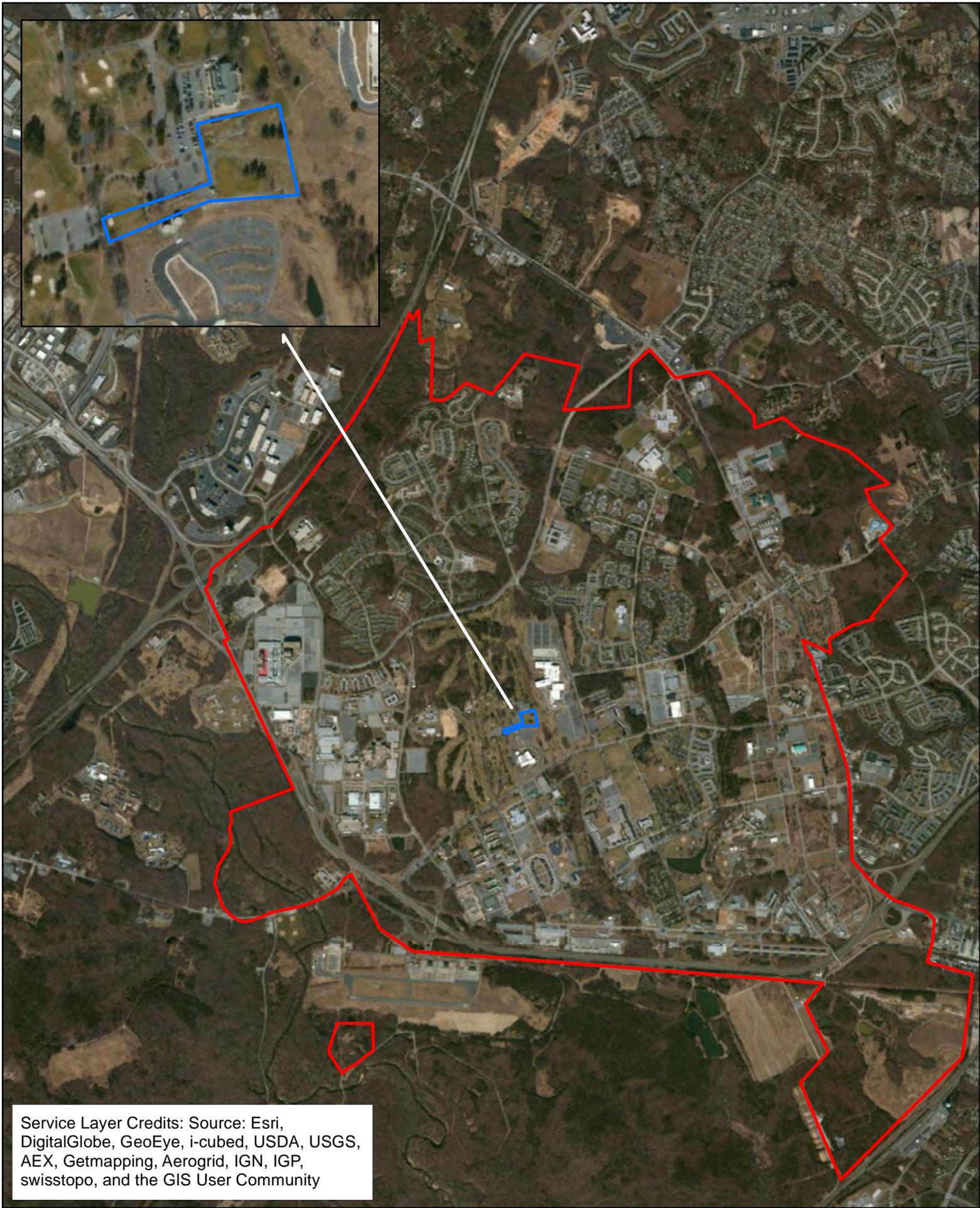
To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 30 days of receipt of this letter to: IMME-PWE, 4216 Roberts Avenue, Suite 5115, Fort Meade, MD 20755-7068, Attn: Suzanne Teague, or email comments to [suzanne.m.teague.civ@mail.mil](mailto:suzanne.m.teague.civ@mail.mil). For questions, please contact Suzanne Teague, 301-677-9185.

Sincerely,

A handwritten signature in cursive script that reads "Michael P. Butler".

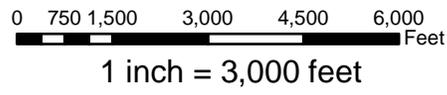
Michael P. Butler  
Chief, Environmental Division

Enclosure



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Enclosure 1: Proposed Action Location  
Fort George G. Meade  
Anne Arundel County, Maryland





**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:

IMME-PWE

Mr. Bob Rosenbush  
Maryland Department of Planning  
301 West Preston Street, Suite 1101  
Baltimore, Maryland 21201

Dear Mr. Rosenbush:

On behalf of Fort George G. Meade (FGGM), 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 175<sup>th</sup> Network Warfare Squadron facility construction at Fort George G. Meade, Maryland (Fort Meade). The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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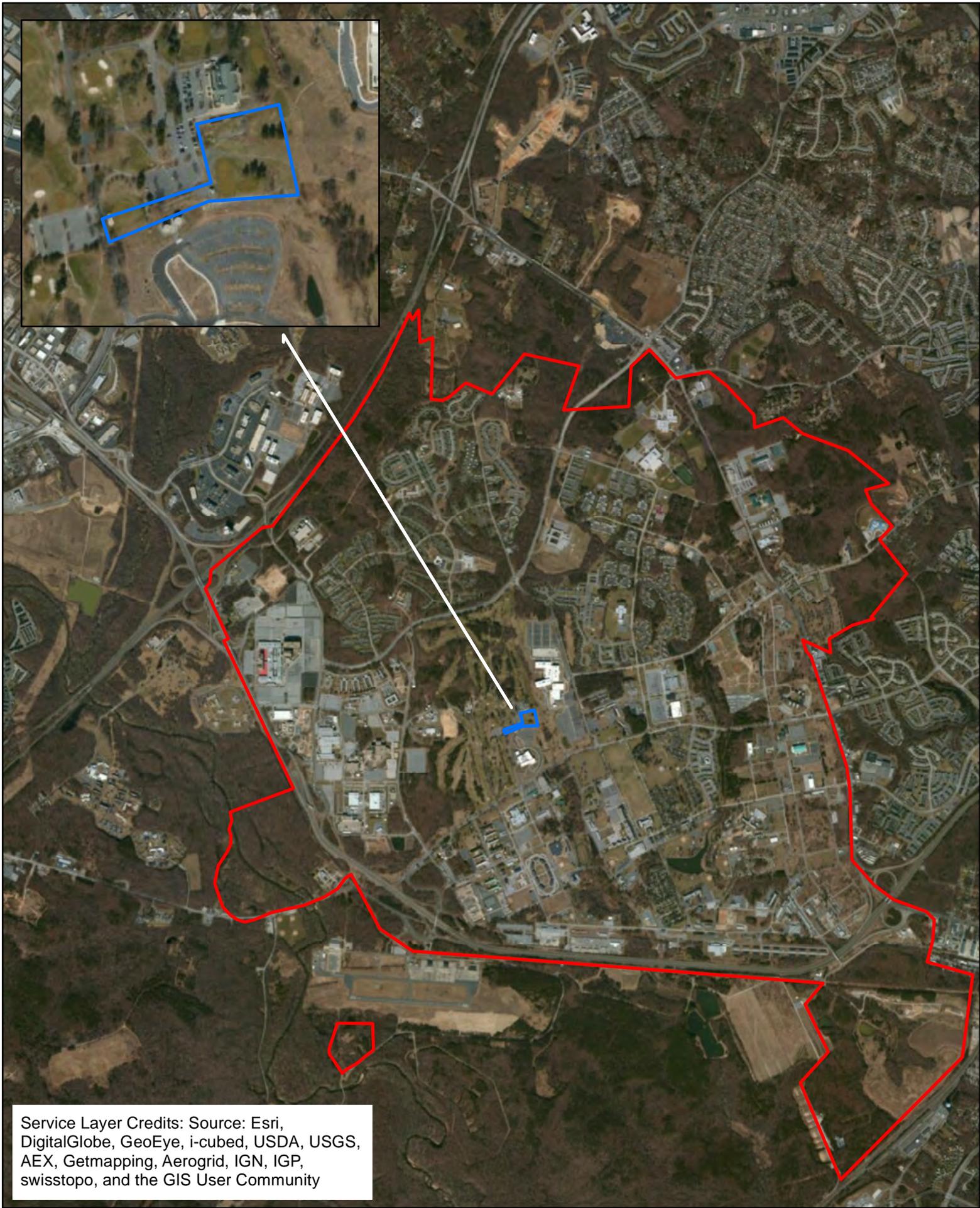
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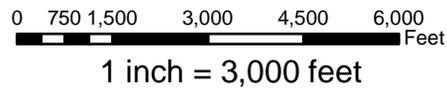
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US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, UNITED STATES ARMY GARRISON  
4551 LLEWELLYN AVENUE, SUITE 5000  
FORT GEORGE G. MEADE, MARYLAND 20755-5000

REPLY TO  
ATTENTION OF:

IMME-PWE

Ms. Linda C. Janey  
Maryland State Clearinghouse  
Maryland Office of Planning, Room 1104  
301 West Preston Street  
Baltimore, Maryland 21201-2365

Dear Ms. Janey,

On behalf of Fort George G. Meade (FGGM), 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 Maryland National Guard's proposed 175<sup>th</sup> Network Warfare Squadron facility construction at Fort George G. Meade, Maryland (Fort Meade). The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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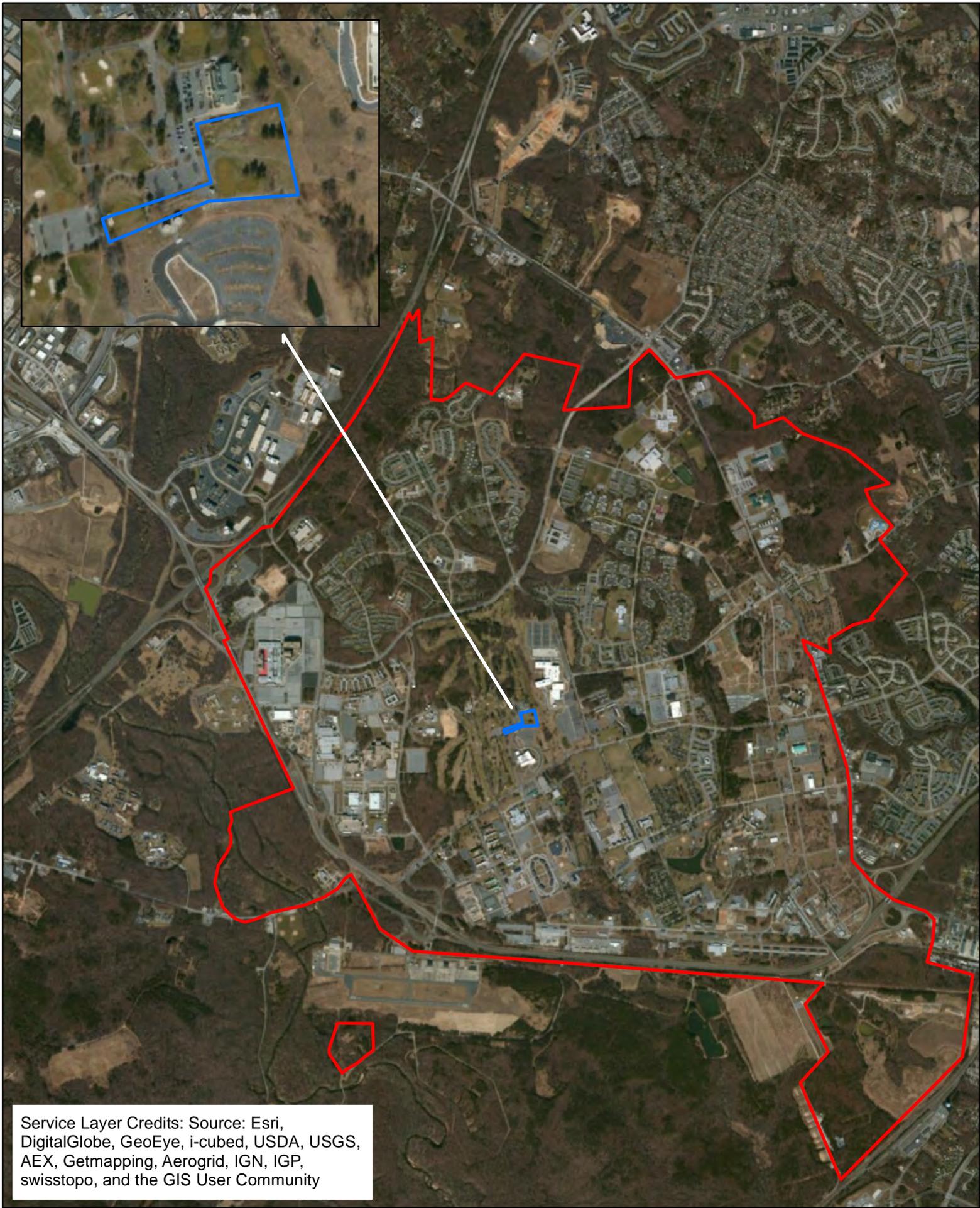
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Michael P. Butler  
Chief, Environmental Division

Enclosure



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0 750 1,500 3,000 4,500 6,000 Feet  
1 inch = 3,000 feet





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:

IMME-PWE

Mr. William Arguto  
USEPA Region III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103

Dear Mr. Arguto:

On behalf of Fort George G. Meade (FGGM), 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 175<sup>th</sup> Network Warfare Squadron facility construction at Fort George G. Meade, Maryland (Fort Meade). The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

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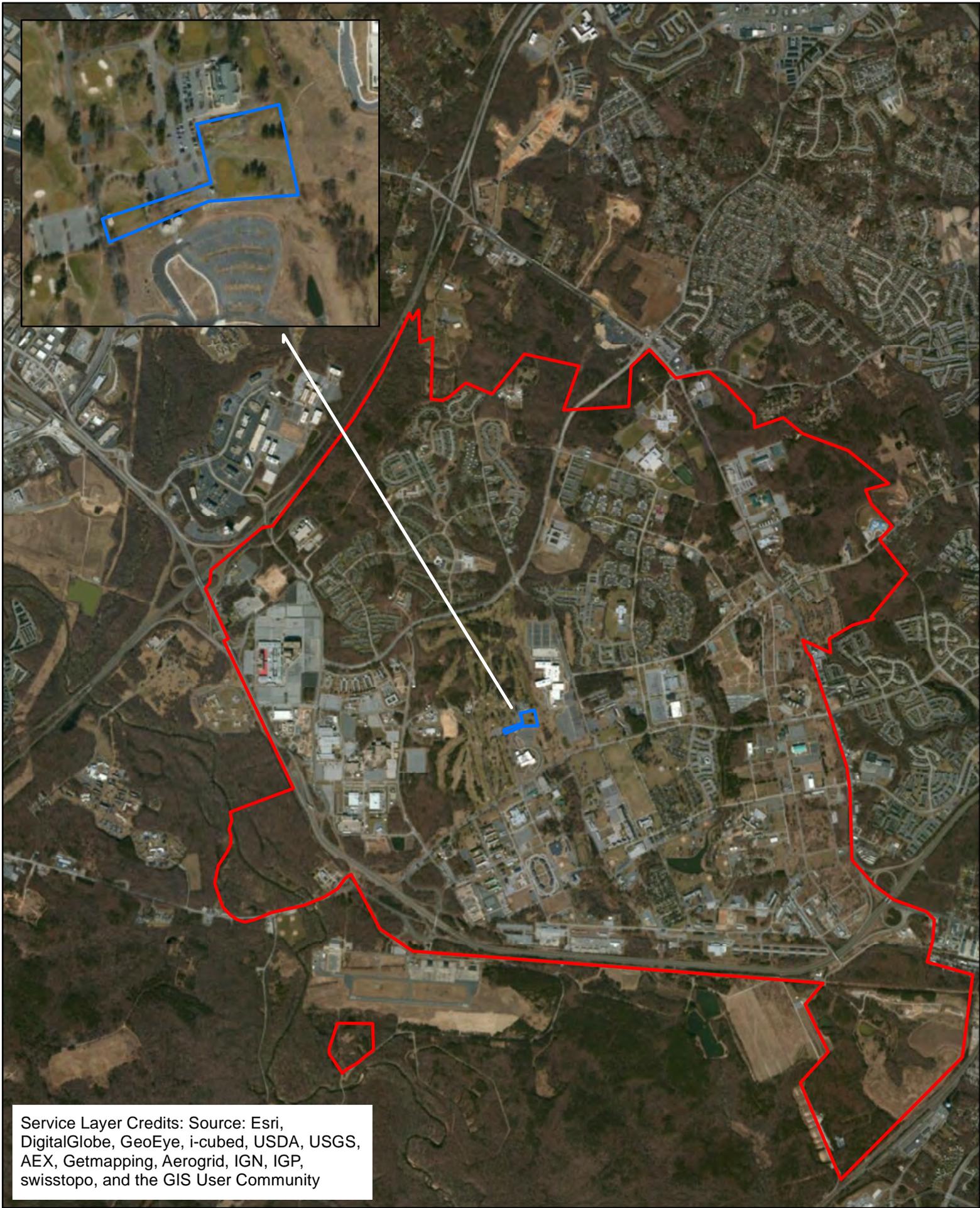
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Sincerely,

A handwritten signature in cursive script that reads "Michael P. Butler".

Michael P. Butler  
Chief, Environmental Division

Enclosure



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Anne Arundel County, Maryland

0 750 1,500 3,000 4,500 6,000 Feet  
1 inch = 3,000 feet





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029**

September 11, 2015

Ms. Suzanne Teague  
IMME-PWE  
4216 Roberts Avenue  
Suite 5115  
Fort Meade, MD 20755-7068

Re: Scoping to Prepare an Environmental Assessment (EA) for the Proposed 175<sup>th</sup> Network Warfare Squadron facility construction at Fort George G. Meade, Maryland

Dear Ms. Teague:

In accordance with the National Environmental Policy Act (NEPA) of 1969, Section 309 of the Clean Air Act and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508), the U.S. Environmental Protection Agency (EPA) has reviewed the scoping information provided for the proposed 175<sup>th</sup> Network Warfare Squadron facility construction at Fort George G. Meade, Maryland (Fort Meade, FGM).

The proposed action will be evaluated in an Environmental Assessment (EA) and includes the construction of a new one-story facility covering 9,000 gross square feet, along with associated parking and access road, on approximately 4.5 acres. The facility will include classified and unclassified spaces, and is projected to support approximately 84 personnel.

The EA should include a clear and robust justification of the underlying purpose and need for the proposed action. The purpose and need statement is important because it helps explain why the proposed action is being undertaken and what objectives the project intends to achieve. The purpose of the proposed action is typically the specific objective of the activity. The need should explain the underlying problem for why the project is necessary. Based on the limited information provided, the project purpose and need is unclear. Please be cautious not to make the project purpose and need too narrow, limiting a reasonable range of alternatives. Alternatives analysis should include the suite of other activities or solutions that were considered and the rationale for not carrying these alternatives forward for detailed study. It appears that at this time in the scoping process, a specific project location, project layout, and building specifications have already been determined. EPA recommends that other potentially reasonable alternatives to the proposed action be fully presented in the EA: the discussion should include the site selection and narrowing process to be utilized, alternative site layouts, and alternative locations within Fort Meade or other facilities in the region that are considered.

EPA strongly encourages a thorough cumulative impact analysis for past, present and reasonably foreseeable projects occurring in the project areas. The document should address potential indirect and cumulative effects in the project areas, and analysis may aid in the identification of resources that are likely to be adversely affected by multiple projects, and sensitive resources that could require additional measures. EPA is aware that there are several other reasonably past, present, and foreseeable projects in the adjacent area, which may be prudent to consider, including the proposed widening and interchange improvements of MD 198 and MD 32, the proposed widening and interchange improvements of MD 175 and MD 295, various activities occurring on the adjacent Tipton Airfield, and a variety of commercial development surrounding Fort Meade.

EPA is aware that there are hazardous materials and hazardous sites covered under Superfund at Fort Meade. Please include relevant information about any sites or former sites that may be in the vicinity of the project study area. It may be useful to include a discussion of how the proposed action may affect any of these sites or ongoing cleanup operations. Please coordinate with the necessary federal, state and local entities regarding hazardous sites.

EPA is interested in discussing this and other projects being studied in compliance with NEPA that may be occurring at Fort Meade. We are aware that several EA's have been prepared for activities at Fort Meade in recent years. We would appreciate engaging you to learn more about base operations, facilities, plans and procedures for conducting NEPA studies. We would be interested in working more closely with you to get an idea of the NEPA studies currently in planning and we would welcome the opportunity to discuss Fort Meade's NEPA work, at your convenience.

EPA has included general information for your consideration during the development of the EA which is provided in the Technical Comments document (enclosed). Thank you for the opportunity to review this project. EPA looks forward to receiving the EA. If you have questions regarding these comments, the staff contact for this project is Alaina McCurdy; she can be reached at 215-814-2741.

Sincerely,



Barbara Rudnick  
NEPA Team Leader  
Office of Environmental Programs

Enclosure (1)

## Technical Comments

### Fort Meade Squadron Facility Scoping Environmental Assessment

#### Purpose and Need

Since the range of alternatives evaluated is defined by the purpose and need for the project, it is imperative that the purpose and need be clearly identified in the EA. The purpose or objective of the proposal should be defined in relationship to the need for the action. Therefore, the need for the action should identify and describe the underlying problem or deficiency; facts and analyses supporting the problem or deficiency in the particular location at the particular time should be specified; and the context or perspective of the agency mission in relation to the need for action should be stated.

#### Alternatives Analysis

The alternatives analysis is central to the EA and it is important to provide it in the public document. The alternatives analysis should include other alternative sites considered and eliminated and alternative site designs of the Preferred Alternative to determine the least environmentally intrusive alternative. As described in the regulations for the Council on Environmental Quality (CEQ) (40 CFR §1502.14), the examination and comparison of the alternatives under consideration is the heart of the environmental document. It is through this comparison that the lead agency is able to incorporate agency and public input to make informed decisions with regard to the merits of the project and the advantages and disadvantages of each of the alternatives being studied. Consequently, the CEQ regulations require that the details of each alternative, including the “no action” alternative be clearly presented in a comparative form for easy analysis by the reader. The rationale for the selection of the preferred alternative should be clearly stated in the analysis. For those alternatives that are eliminated from consideration, the reasons for their elimination should be given.

#### Land Use

The project area should be described in detail and quantified, specifying the type and acreage of land impacted as well as a description of the existing buildings on the site including their current and past use. Discuss any permits required before commencement of the project. This may include a Section 404/Section 10 permit from the Corps of Engineers, state water quality certification, and local construction and zoning permits.

In addition to NEPA, other laws, regulations, permits, licenses and Executive Orders may be applicable to the Proposed Action. A summary of applicable regulatory requirements and approvals with which the Proposed Action must demonstrate compliance should be discussed in the EA.

## Environmental Impacts

The EA should examine the potential direct and indirect impacts of the project on the environment. In addition, mitigation measures for any adverse environmental impacts should be described. Areas that mandate individual attention are described below.

### Air Resources

*Attainment/Non-attainment:* EPA, under the requirements of the 1970 Clean Air Act (CAA) as amended in 1977 and 1990, has established National Ambient Air Quality Standards (NAAQS) for six contaminants, referred to as criteria pollutants (40 CFR 50);. These are: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM), lead (Pb), and sulfur dioxide (SO<sub>2</sub>). Particulate matter is divided into two classes, coarse particulate matter (PM<sub>10</sub>), i.e., particulates between 2.5 and 10 microns in diameter, and fine particulate matter (PM<sub>2.5</sub>), i.e., particles less than 2.5 microns in diameter. The EA should identify areas that meet the NAAQS standard for a criteria pollutant as well as those areas where a criteria pollutant level exceeds the NAAQS.

*Conformity Analysis:* A general conformity rule analysis should be conducted according to the guidance provided by the EPA in Determining Conformity of General Federal Actions to State or Federal Implementations Plans. Under the general conformity rule, reasonable foreseeable emissions associated with all operation and construction activities, both direct and indirect, must be quantified and compared to the annual de minimis levels for those pollutants in nonattainment for that area.

*Construction Permit Requirements/Temporary Impacts:* In an effort to eliminate the NAAQS violation, GSA/DOS should control or minimize construction emissions through use of Best Management Practices (BMPs) in association with each proposed project involving on-site construction.

### Water Resources

All water quality issues including surface water, groundwater, drinking water, stormwater management, wastewater management, wetlands, oceans and watersheds should be addressed.

*Groundwater:* The principal aquifers in the region should be identified and described. All wells, both public and private, that could potentially be affected by the project must be identified. Areas of groundwater recharge in the vicinity should also be identified and any potential impacts from the proposed action examined.

*Surface Water Resources:* The EA should outline measures to protect surface waters. The aquatic ecosystem must be evaluated carefully and include a detailed discussion of runoff, sediment and erosion control measures. Such mitigation measures must address both short term construction impacts and long term project impacts.

*Chesapeake Bay Watershed:* Chesapeake Bay Executive Order 13508, Protecting and Restoring a National Treasure, tasked a team of federal agencies to draft a way forward for protection and restoration of the Chesapeake watershed. This team, the Federal Leadership Committee for the Chesapeake Bay, developed the *Strategy for Protecting and Restoring the Chesapeake Bay Watershed*. This strategy sets out clear and aggressive goals, outcomes, and objectives to be accomplished through 2025 by the federal government, working closely with state, local, and nongovernmental partners, to protect and restore the health of the Chesapeake Bay watershed. The strategy deepens the federal commitment to the Chesapeake region, with agencies dedicating unprecedented resources, targeting actions where they can have the most impact, ensuring that federal lands and facilities lead by example in environmental stewardship and taking a comprehensive, ecosystem-wide approach to restoration.

*Wetlands:* Wetlands present on, or immediately surrounding the site should be delineated according to the 1987 Federal Manual for Identifying and Delineating Jurisdictional Wetlands and appropriate Regional Supplement. Impacts to wetlands should be avoided or minimized whenever possible. The total size of the wetlands should be provided, in addition to the size of the wetland in the study area and size of the direct impact. The EA must analyze the size and functional values of all impacted wetlands and develop a mitigation plan for their replacement.

*Stormwater Management/Low Impact Development:* Stormwater runoff in urban and developing areas is one of the leading sources of water pollution in the United States. In recognition of this issue, Congress enacted Section 438 of the Energy Independence and Security Act of 2007 (EISA) to require federal agencies to reduce stormwater runoff from federal development projects to protect water resources.

The intent of Section 438 of the EISA is to require federal agencies to develop and redevelop applicable facilities in a manner that maintains or restores stormwater runoff to the maximum extent technically feasible. Implementation of Section 438 of the EISA can be achieved through the use of the green infrastructure/low impact development (GI/LID) infrastructure tools described in the Technical Guidance ([www.epa.gov/owow/nps/lid/section438](http://www.epa.gov/owow/nps/lid/section438)). For more information on specific GI/LID practices and how they function, visit: [www.epa.gov/greeninfrastructure](http://www.epa.gov/greeninfrastructure) and [www.epa.gov/nps.lid](http://www.epa.gov/nps.lid). The intention of the statute is to maintain or restore the pre-development site hydrology during the development or redevelopment process. This requirement is intended to ensure that receiving waters are not negatively impacted by changes in runoff temperature, volumes, durations and rates resulting from federal projects.

The fundamental principle of the Technical Guidance is to employ systems and practices that use or mimic natural processes to: 1) infiltrate and recharge, 2) evapotranspire, and/or 3) harvest and use precipitation near to where it falls to earth. Implementation of these new stormwater performance requirements in EISA Section 438 provides numerous environmental and economic benefits in addition to reducing the volume of stormwater runoff.

### Physiography

The physical and natural resources of the project area should be described including physiographic provinces, topography, climate and geologic setting. Soils at the project should be mapped and outlined. Distribution and classification of soils within the study area, and the major soil types found at the project site should be described.

### Terrestrial Resources

The EA should provide a complete description of the terrestrial habitat resources in the study area. Complete species lists for mammals, birds, amphibians, reptiles, and plants present in the study area should be provided. The composition and characteristics of each community type should be summarized and the functions and total acreage indicated.

### Threatened and Endangered Species

The Endangered Species Act (ESA) provides for the listing of endangered and threatened species of plants and animals as well as the designation of critical habitat for listed species. The ESA prohibits the taking of any listed species without (for federal agencies) an "Incidental Take Statement." The EA should provide a description of terrestrial, wildlife and aquatic species in the study area. Any threatened or endangered species must be listed. Critical habitat for threatened or endangered species should be properly identified. The EA should describe the potential project impacts to these species. The most recent state and federal threatened and endangered species coordination letters should be included in the EA. In addition, we recommend that the appropriate state and federal agencies be contacted annually at a minimum regarding these issues.

### Waste Management

The Resource Conservation and Recovery Act (RCRA) passed in 1976, continued earlier provisions relating to solid waste and resource recovery, including hazardous waste. The act sets standards for hazardous waste treatment, storage, and disposal facilities. The management of hazardous waste at the facility should be conducted in compliance with RCRA. The EA should also state if a Hazardous Waste Management Plan and a Hazardous Waste Minimization Plan are in place.

Identify known hazardous materials, including asbestos-containing materials (AM), lead-based paint (LBP), and oil and other hazardous materials (OHMs), located within the study area. The status of the materials should be discussed as well as remedial methods described (if applicable) in addition to providing a detailed plan for proper disposal.

As mentioned in our cover letter, any relevant cleanup activities being done under the Comprehensive Environmental Response, Compensation, and Liability Act should be discussed.

## Community Impacts

*Noise:* EPA retains authority to investigate and study noise and its effect, disseminate information to the public regarding noise pollution and its adverse health effects, respond to inquiries on matters related to noise, and evaluate the effectiveness of existing regulations for protecting the public health and welfare, pursuant to the Noise Control Act of 1972 and the Quiet Communities Act of 1978. Noise pollution adversely affects the lives of millions of people. Studies have shown that there are direct links between noise and health. Problems related to noise include stress related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity. Noise Induced Hearing Loss (NIHL) is the most common and often discussed health effect, but research has shown that exposure to constant or high levels of noise can cause countless adverse health effects. Please discuss potential noise impacts that may result from the Proposed Action.

*Socioeconomics:* Discuss the socioeconomic and cultural status of the area, including the number of people, employees and/or jobs impacted as a result of the proposed project. The EA should address the decrease or increase of people/employees/jobs in relation to its effect on tax base, local housing, job markets, schools, utilities, businesses, etc.

*Traffic and Transportation:* The EA should address traffic and transportation as it relates to the Proposed Action. It may be necessary to provide an evaluation of existing roads specifying existing levels of service at major intersections near the project area as well as accident data. If appropriate, an evaluation of the impacts associated with an increased number of employees should be provided. The EA should discuss existing and proposed public transportation to the area under consideration and provide estimates of expected usage. Traffic projections should then be made to show expected conditions for a completed project.

*Environmental Justice:* Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs each federal agency to incorporate environmental justice into its mission and activities by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations....” The Executive Order also explicitly called for the application of equal consideration for Native American programs. The EA should identify Environmental Justice (EJ) communities in the study area and discuss potential impacts that the Proposed Action may have on these communities.

*Children’s Health:* Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires each federal agency to identify and assess environmental health and safety risks to children. “Environmental health and safety risks” are defined as “risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest.” When conducting assessments of environmental risks, the lead agency should consistently and explicitly take into account health risks to children and infants from environmental hazards. Please identify/discuss children in the study area and potential impacts that may result from the Proposed Action.

*Cultural Resources:* EPA understands that GSA will be consulting with the District of Columbia Historic Preservation Office, the Virginia Department of Historic Resources, the Maryland Historic Trust and other interested parties to identify historic properties that may potentially be affected by the implementation of the proposed action and to seek ways to resolve potential adverse effects. Please include within the EA detailed descriptions of the affected sites and potential impacts including correspondence with agencies and a Memorandum of Agreement, if applicable.

### Cumulative Impacts

Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. The Council on Environmental Quality in 40 CFR 1508.7 defines cumulative impacts as “impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.” Therefore, a cumulative impacts assessment should be an integral part of the EA. It is suggested that a secondary and cumulative effects analysis begin with defining the geographic and temporal limits of the study, which is generally broader than the study area of the project.

### Leadership in Energy and Environmental Design

The LEED (Leadership in Energy and Environmental Design) Green Building Rating System is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. Members of the U.S. Green Building Council representing all segments of the building industry developed LEED and continue to contribute to its evolution. LEED standards are currently available for:

- new construction and major renovation projects (LEED-NC)
- existing building operations (LEED-EB, Pilot version)
- commercial interiors projects (LEED-CI, Pilot version)
- core and shell projects (LEED-CS, Pilot version)

LEED was created in order to define “green building” by establishing a common standard of measurement; promote integrated, whole-building design practices; recognize environmental leadership in the building industry; stimulate green competition; raise consumer awareness of green building benefits; and transform the building market. Please address and incorporate LEED within the project design, where appropriate.

LEED provides a complete framework for assessing building performance and meeting sustainability goals. Based on well-founded scientific standards, LEED emphasizes state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED recognizes achievements and promotes expertise in green building through a comprehensive system offering project certification, professional accreditation, training and practical resources. For more information, contact the U.S. Green Building Council at the following web address: <http://www.usgbc.org/leed>.

### Executive Order 13693

Executive Order (EO) 13693 *Planning for Federal Sustainability in the Next Decade* was signed on March 19, 2015. The goal of EO 13693 is “to maintain Federal leadership in sustainability and greenhouse gas emission reductions.” The EO revokes and supersedes EO 13423, EO 13514, and several Presidential Memorandum. EO 13693 specifies numerous Federal energy requirements in several areas, including:

- Promote building energy conservation, efficiency, and management by reducing agency building energy intensity
- Ensure that certain percentages of the total amount of building electric and thermal energy be clean energy
- Improve agency waters use efficiency and management, including stormwater management

Please refer to the full text of EO 13693 for specific numerical and non-numerical targets, where applicable. The full implementing instructions are available at:  
[https://www.whitehouse.gov/sites/default/files/docs/eo\\_13693\\_implementing\\_instructions\\_june\\_10\\_2015.pdf](https://www.whitehouse.gov/sites/default/files/docs/eo_13693_implementing_instructions_june_10_2015.pdf)

### Climate Change

Please be aware that on December 18, 2014, the Council on Environmental Quality released revised draft guidance for public comment that describes how Federal departments and agencies should consider the effects of greenhouse gas emissions and climate change in their National Environmental Policy Act reviews. The revised draft guidance supersedes the draft greenhouse gas and climate change guidance released by CEQ in February 2010. This draft guidance explains that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for a proposed action (in relation to building for resiliency).

"CEQ recognizes that many agency NEPA analyses to date have concluded that GHG emissions from an individual agency action will have small, if any, potential climate change effects. Government action occurs incrementally, program-by-program and step-by-step, and climate impacts are not attributable to any single action, but are exacerbated by a series of smaller decisions, including decisions made by the government. Therefore, the statement that emissions from a government action or approval represents only a small fraction of global emissions is more a statement about the nature of climate change challenge, and is not an appropriate basis for deciding whether to consider climate impacts under NEP A. Moreover, these comparisons are not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations."

The revised draft guidance suggests that, if an agency determines that evaluating the effects of GHG emissions would not be useful in the decision making process and to the public to distinguish between the proposed action, alternatives and mitigations, the agency should

document the rationale for that determination. Please consider discussion of climate change in the EA consistent with this recent draft guidance. As appropriate, project design should incorporate predictions of climate change for the region to address planning for resiliency. The CEQ draft guidance is available in full at:

[http://www.whitehouse.gov/sites/default/files/docs/nepa\\_revised\\_draft\\_ghg\\_guidance\\_searchable.pdf](http://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf)

### *Distribution List*

An EA should include a Distribution List of agencies, organizations, and persons to whom copies of the document were sent as indicated in 40 CFR §1502.10 under “Recommended format” and §1502.19. A Distribution List identifies those parties who have been given the opportunity to comment and reveals that those not included on the list may need to be given the EA for review. This information is critical to ensuring all necessary parties are given the opportunity to review and provide input to the impacts of the proposed action.



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:

IMME-PWE

Ms. Lori Byrne  
Maryland Dept. of Natural Resources  
Tawes State Office Building  
580 Taylor Avenue  
Annapolis, Maryland 21401

Dear Ms. Byrne:

On behalf of Fort George G. Meade (FGGM), 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 175<sup>th</sup> Network Warfare Squadron facility construction at Fort George G. Meade, Maryland (Fort Meade). The EA will be prepared in accordance with the National Environmental Policy Act of 1969, as amended.

The proposed action to be evaluated in the EA includes construction of a new one-story facility covering 9,000 gross square feet, along with associated parking and access road, on approximately 4.5 acres (Enclosure 1). A majority of the facility will be classified as a Sensitive Compartmented Information Facility and adhere to the Technical Specifications for Intelligence Community Directive/Intelligence Community Standard 705. The facility will also include unclassified support space for conference, break rooms and restrooms. It is projected that the proposed facility would support approximately 84 personnel. Approximately 65 of the 84 personnel are already located at Fort Meade.

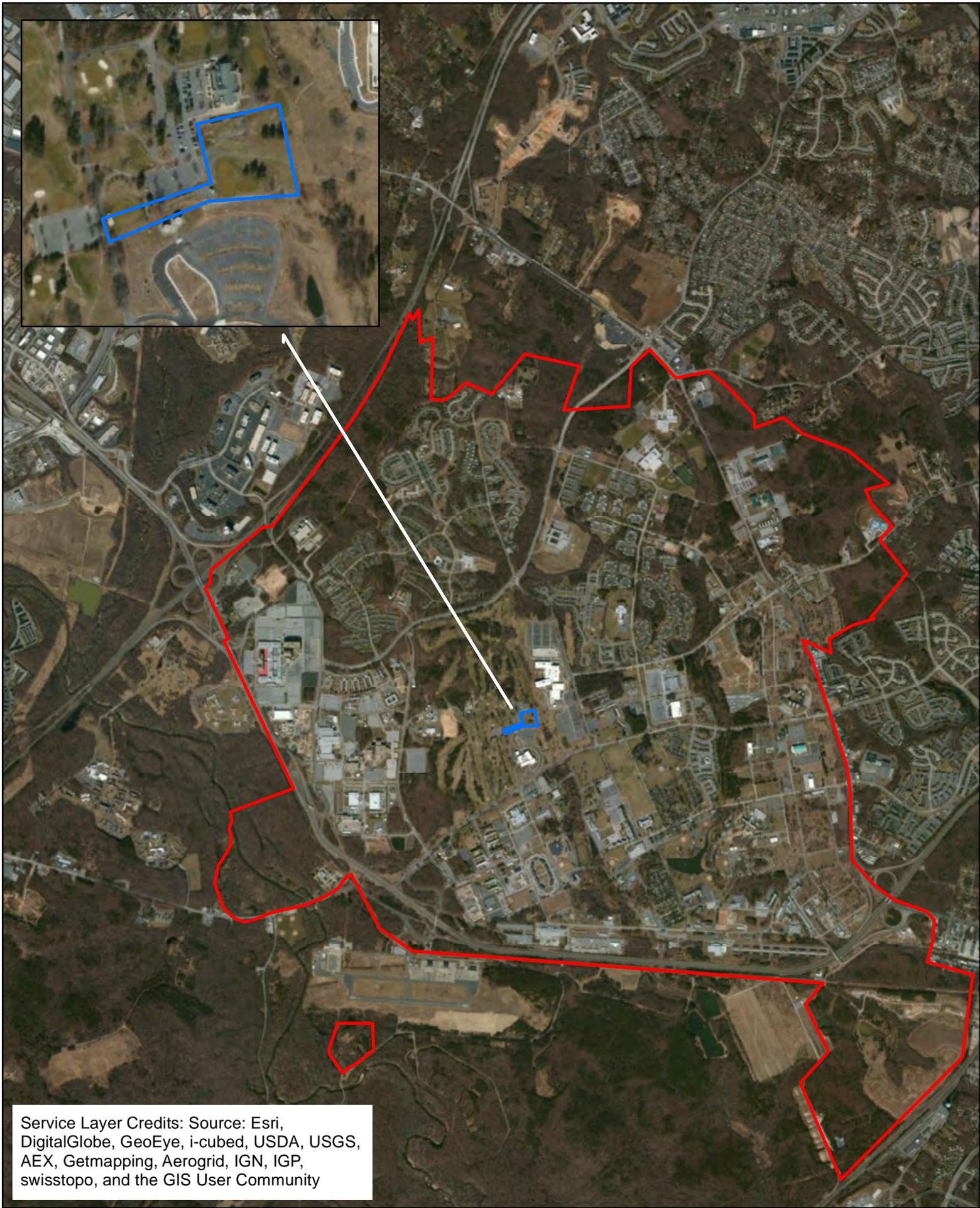
To assist us in identifying issues that may affect the implementation of this project, please provide written comments within 30 days of receipt of this letter to: IMME-PWE, 4216 Roberts Avenue, Suite 5115, Fort Meade, MD 20755-7068, Attn: Suzanne Teague, or email comments to [suzanne.m.teague.civ@mail.mil](mailto:suzanne.m.teague.civ@mail.mil). For questions, please contact Suzanne Teague, 301-677-9185.

Sincerely,

A handwritten signature in cursive script that reads "Michael P. Butler".

Michael P. Butler  
Chief, Environmental Division

Enclosure



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Enclosure 1: Proposed Action Location  
Fort George G. Meade  
Anne Arundel County, Maryland

0 750 1,500 3,000 4,500 6,000 Feet  
1 inch = 3,000 feet





**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:

**IMME-PWE**

Mr. J. Rodney Little  
State Historic Preservation Officer  
Maryland Historical Trust  
100 Community Place  
Crownsville, Maryland 21032-2023

Dear Mr. Little:

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 construction of a 175<sup>th</sup> Network Warfare Squadron facility for the Maryland Air National Guard (MDANG) at Fort George G. Meade (Fort Meade), Anne Arundel County, Maryland.

The proposed undertaking includes construction of a new one-story facility covering 9,000 gross square feet, along with associated parking and access road, on approximately 4.5 acres (Enclosure 1). A majority of the facility will be classified as a Sensitive Compartmented Information Facility and adhere to the Technical Specifications for Intelligence Community Directive/Intelligence Community Standard 705. The facility will also include unclassified support space for conference, break rooms and restrooms. It is projected that the proposed facility would support approximately 84 personnel. Approximately 65 of the 84 personnel are already located at Fort Meade.

The entirety of Fort Meade has been investigated for the presence of archaeological resources. No archaeological resources were identified in the proposed project area. The only National Register eligible site at Fort Meade is site 18AN1240, 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 the proposed project site.

The Downs Farmstead archaeological site (18AN973) and associated cemetery is located approximately 1500 feet north of the proposed project area. The archaeological site was determined ineligible for National Register listing in 2012. The Downs Cemetery was evaluated for NRHP eligibility in 2006 and was also found ineligible.

No architectural historic properties are located in the proposed project area, nor are any located within the viewshed of the proposed project. The nearest historic architectural properties to the project area are buildings associated with the National Register eligible Fort Meade Historic District, located over 2,000 feet to the southeast.

No historic properties are located at the proposed project location. The proposed project location is not within the viewshed of Fort Meade's historic properties, including the National Register Historic District and the National Register eligible water treatment plant. The MDANG has therefore determined that implementation of the proposed action at Fort Meade will have no

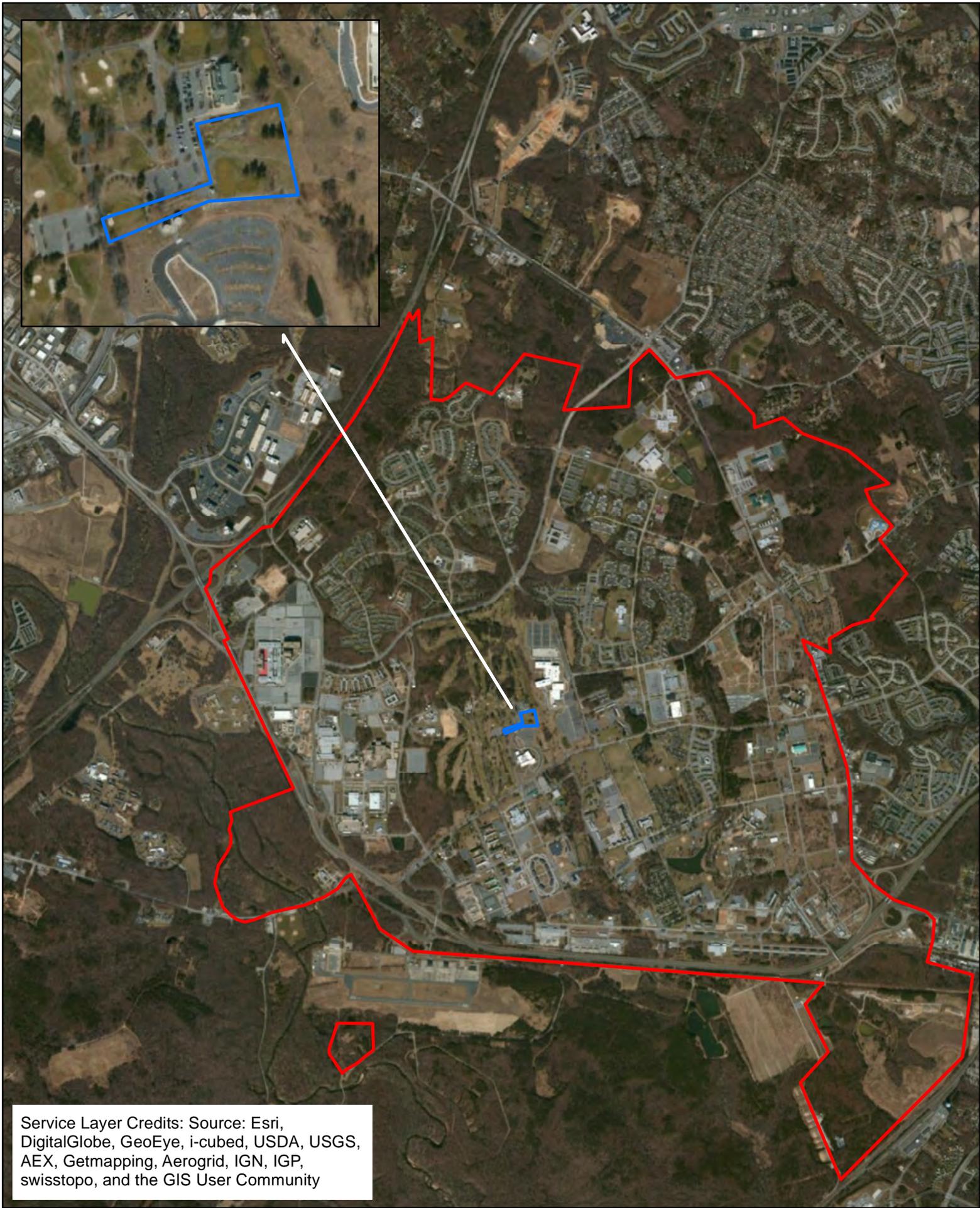
effect on historic properties, and no further work is recommended. Should we become aware, from any source, that historic properties are located at or near the property, we will notify your office immediately. For questions, please contact Suzanne Teague, 301-677-9185.

Sincerely,

Handwritten signature of Michael P. Butler in cursive script.

Michael P. Butler  
Michael P. Butler  
Chief, Environmental Division

Enclosure



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Fort George G. Meade  
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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

F  
 Army  
 DLH/ACA

REPLY TO  
 ATTENTION OF:

IMME-PWE

201503475

Mr. J. Rodney Little  
 State Historic Preservation Officer  
 Maryland Historical Trust  
 100 Community Place  
 Crownsville, Maryland 21032-2023

RECEIVED  
 AUG 14 2015

BY: \_\_\_\_\_

Dear Mr. Little:

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 construction of a 175<sup>th</sup> Network Warfare Squadron facility for the Maryland Air National Guard (MDANG) at Fort George G. Meade (Fort Meade), Anne Arundel County, Maryland.

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The entirety of Fort Meade has been investigated for the presence of archaeological resources. No archaeological resources were identified in the proposed project area. The only National Register eligible site at Fort Meade is site 18AN1240, 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 the proposed project site.

The Downs Farmstead archaeological site (18AN973) and associated cemetery is located approximately 1500 feet north of the proposed project area. The archaeological site was determined ineligible for National Register listing in 2012. The Downs Cemetery was evaluated for NRHP eligibility in 2006 and was also found ineligible.

No architectural historic properties are located in the proposed project area, nor are any located within the viewshed of the proposed project. The nearest historic architectural properties to the project area are buildings associated with the National Register eligible Fort Meade Historic District, located over 2,000 feet to the southeast.

No historic properties are located at the proposed project location. The proposed project location is not within the viewshed of Fort Meade's historic properties, including the National Register Historic District and the National Register eligible water treatment plant. The MDANG has therefore determined that implementation of the proposed action at Fort Meade will have no

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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. For questions, please contact Suzanne Teague, 301-677-9185.

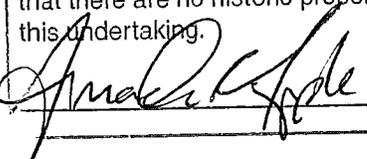
Sincerely,



Michael P. Butler  
Chief, Environmental Division

Enclosure

The Maryland Historical Trust has determined that there are no historic properties affected by this undertaking.

 Date 9/14/15



## **APPENDIX B**

### **RECORD OF NON-APPLICABILITY (RONA)**



**APPENDIX B:  
RECORD OF NON-APPLICABILITY (RONA)  
FOR CLEAN AIR ACT CONFORMITY**

**Proposed MDANG 175<sup>th</sup> NWS Facility  
at Fort George G. Meade, Maryland**

**INTRODUCTION**

The U.S. Environmental Protection Agency (USEPA) published *Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule*, in the 30 November 1993, Federal Register (40 CFR Parts 6, 51, and 93). This publication provides implementing guidance to document Clean Air Act Conformity Determination requirements.

Federal regulations state that no department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license to permit, or approve any activity that does not conform to an applicable implementation plan. It is the responsibility of the Federal agency to determine whether a Federal action conforms to the applicable implementation plan, before the action is taken (40 CFR Part 1 51.850[a]).

The general conformity rule applies to federal actions proposed within areas which are designated as either nonattainment or maintenance areas for a National Ambient Air Quality Standard (NAAQS) for any of the criteria pollutants. Former nonattainment areas that have attained a NAAQS are designated as maintenance areas. Emissions of pollutants for which an area is in attainment are exempt from conformity analyses.

The region of influence (ROI) for the Proposed Action at Fort Meade, Maryland is the Metropolitan Baltimore Intrastate Air Quality Control Region, which includes Fort Meade in Anne Arundel County (40 CFR Part 81.28). Anne Arundel County is classified as a nonattainment area for PM<sub>2.5</sub> and O<sub>3</sub> (VOCs and NO<sub>x</sub> are precursors to the formation of O<sub>3</sub>). 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 minimis* levels for the project area are 100 tons per year for PM<sub>2.5</sub> and NO<sub>x</sub>. The VOC *de minimis* level is 50 tons per year as established for nonattainment areas located in an O<sub>3</sub> transport area. Federal actions may be exempt from conformity determinations if they do not exceed designated *de minimis* levels (40 CFR Part 1, Section 51.853[b]).

## PROPOSED ACTION

Action Proponent: Maryland Air National Guard (MDANG)

Location: Fort Meade, Maryland

Proposed Action Name: Environmental Assessment for the MDANG 175<sup>th</sup> NWS Facility

Air Emissions Summary: Emission sources associated with the Proposed Action involve construction of a new one-story facility covering 9,000 gross square feet with associated parking and access road on approximately 4.5 acres. The project site is located 1,500 feet northeast of the intersection of Taylor Avenue and Mapes Road on a portion of the former Fort Meade Golf Course. It is projected that the proposed MDANG 175<sup>th</sup> Network Warfare Squadron (NWS) facility would be capable of supporting approximately 84 personnel. Approximately 65 of the 84 personnel are already located at Fort Meade. Therefore, this air quality analysis estimates vehicle emissions of 19 additional personnel to the installation. Total emissions resulting from construction activities have been estimated using data presented in Chapter 2, general air quality assumptions, and USEPA emission factors. Estimated construction emissions due to implementation of the Proposed Action are shown in Table 1. Based on the air quality analysis for the Proposed Action, the maximum estimated emissions would be below conformity *de minimis* levels as depicted in the following Table 1.

**Table 1: Estimated Emissions from Implementation of the Proposed Action**

Estimated Emissions	Emissions (tons/year)					
	CO <sup>2</sup>	VOCs <sup>1</sup>	NO <sub>x</sub> <sup>1</sup>	SO <sub>x</sub> <sup>2</sup>	PM <sub>10</sub> <sup>2</sup>	PM <sub>2.5</sub> <sup>1</sup>
Construction Emissions	6.95	1.89	16.15	0.02	1.35	0.90
Annual Operational Emissions (Work Force Emissions) for 19 additional personnel (tons/year)	1.02	0.04	0.10	0.00	0.01	0.01
<b>Total Emissions from Implementation of Proposed Action</b>	<b>7.97</b>	<b>1.93</b>	<b>16.25</b>	<b>0.02</b>	<b>1.36</b>	<b>0.90</b>
<i>de minimis</i> threshold	NA	50	100	NA	NA	100
<b>Exceeds <i>de minimis</i> threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

*Note:* <sup>1</sup> The ROI is a nonattainment area for the 8-hour O<sub>3</sub> NAAQS (VOCs and NO<sub>x</sub> are precursors to the formation of O<sub>3</sub>), and is in nonattainment of the PM<sub>2.5</sub> NAAQS. *de minimis* thresholds are defined in 40 CFR 93 Section 153. VOC *de minimis* established for nonattainment areas located in an O<sub>3</sub> transport area.

<sup>2</sup> *de minimis* thresholds are not applicable to NAAQS attainment areas. NA = Not Available.

*Sources:* USEPA 2012.

In addition, 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<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). 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<sub>2</sub>, which has a value of one. For example, CH<sub>4</sub> has a GWP of 36, which means that it has a global warming effect 36 times greater than CO<sub>2</sub> on an equal-mass basis (U.S. EPA, *Understanding Global Warming Potentials Website*). Nitrous oxide molecules stay in the atmosphere for an average of 114 years before being removed by a sink or destroyed through chemical reactions. The impact of 1 pound of N<sub>2</sub>O on warming the atmosphere is almost 300 times that of 1 pound of carbon dioxide. To simplify GHG analyses, total GHG emissions from a source are often expressed as a CO<sub>2</sub> equivalent (CO<sub>2</sub>e). The CO<sub>2</sub>e 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<sub>4</sub> and N<sub>2</sub>O have much higher GWPs than CO<sub>2</sub>, CO<sub>2</sub> is emitted in such higher quantities that it is the overwhelming contributor to CO<sub>2</sub>e from both natural processes and human activities. CO<sub>2</sub>e emissions summary for construction emissions and operational emissions (workforce commute) is 1,990.63 metric tons/year for the proposed action.

Affected Air Basin: Metropolitan Baltimore Intrastate Air Quality Control Region

Date RONA prepared: 28 July 2016

RONA Prepared By: U.S. Army Corps of Engineers

## **ATTAINMENT AREA STATUS AND EMISSIONS EVALUATION CONCLUSION**

The project area is nonattainment area for the PM<sub>2.5</sub> and the 8-hour O<sub>3</sub> NAAQS; VOCs and NO<sub>x</sub> are precursors to the formation of O<sub>3</sub>. Emissions associated with construction and operational activities for the Proposed Action were calculated based on standardized methodologies. Emissions were then compared with *de minimis* thresholds for the Metropolitan Baltimore Intrastate Air Quality Control Region, which includes Fort Meade, Maryland.

The U.S. Army Corps of Engineers (USACE) concludes that *de minimis* thresholds for applicable criteria pollutants would not be exceeded as a result of implementation of the Proposed Action. The emissions data supporting that conclusion is shown in Table 1, which is a summary of the calculations, methodology, and data attached to this RONA. Therefore, the USACE concludes that further formal Conformity Determination procedures are not required, resulting in this RONA.

## **RONA APPROVAL**

To the best of my knowledge, the information presented in this RONA is correct and accurate, and I concur in the finding that the Proposed Action does not require a formal CAA Conformity Determination.

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Michael P. Butler  
Chief, Environmental Division

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Date

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# MDANG 175th NWS Facility - Fort George G. Meade, Maryland

**PROPOSED ACTION: CONSTRUCTION EMISSIONS SUMMARY**

Estimated Emissions	Emissions (tons/year)							
	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>
Construction Emissions	6.95	1.89	16.15	0.02	1.35	0.90	1596.41	0.17
Operational Emissions (work force commute)	1.02	0.04	0.10	0.00	0.01	0.01	131.65	0.01
<b>TOTAL =</b>	<b>7.97</b>	<b>1.93</b>	<b>16.25</b>	<b>0.02</b>	<b>1.36</b>	<b>0.90</b>	<b>1728.06</b>	<b>0.17</b>

**PROPOSED ACTION: GHG EMISSIONS SUMMARY**

Estimated GHG Emissions Per Construction Phase	Emissions (Metric tons/year)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2e</sub>
Construction Emissions	1448.24	0.15	1.39	1868
Operational Emissions (work force commute)	119.43	0.01	0.01	123
<b>TOTAL =</b>	<b>1567.67</b>	<b>0.16</b>	<b>1.40</b>	<b>1990.63</b>

**Notes:**

Conversion to Metric Tons = 1 short ton = 0.90718474 metric tons

$$N_2O = NO_x * 0.095$$

$$CO_{2e} = (CO_2 * 1) + (CH_4 * 36) + (N_2O * 298)$$

CO<sub>2e</sub> considers CO<sub>2</sub> plus N<sub>2</sub>O and CH<sub>4</sub> adjusted for global warming potential (GWP) (U.S. EPA)

Carbon dioxide (CO<sub>2</sub>), by definition, has a GWP of 1 regardless of the time period used because it is the gas being used as the reference.(U.S. EPA)

Nitrous Oxide (N<sub>2</sub>O) has a GWP 265-298 times that of CO<sub>2</sub> for a 100-year timescale. N<sub>2</sub>O emitted today remains in the atmosphere for more than 100 years, on average.(U.S. EPA)

Methane (CH<sub>4</sub>) is estimated to have a GWP of 28-36 over 100 years. CH<sub>4</sub> emitted today lasts about a decade on average, which is much less than CO<sub>2</sub>. (U.S. EPA)

## MDANG 175th NWS Facility - Fort George G. Meade, Maryland

### Construction Equipment Emissions

Note: Construction duration is assumed to be 8 months total (174 days subtracting weekends).

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	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>				CO	VOC	NOx	SOx	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>	CO	VOC	NOx	SOx	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>
Tractor/Dozer/Loader/Backhoe	Diesel	160	55	4.07	1.19	7.16	0.007	0.654	0.58206	568.3	0.108	4	8	8	25.27	7.39	44.45	0.04	4.06	3.61	3528.15	0.67	1.58	0.46	2.78	0.00	0.25	0.23	220.51	0.04
Dump Truck	Diesel	260	57	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	8	6	8	28.54	8.94	87.04	0.09	4.63	4.12	8912.58	0.80	1.78	0.56	5.44	0.01	0.29	0.26	557.04	0.05
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	300	57	2.19	0.59	6.15	0.006	0.229	0.20381	568.3	0.053	2	8	8	13.21	3.56	37.10	0.04	1.38	1.23	3427.92	0.32	0.83	0.22	2.32	0.00	0.09	0.08	214.24	0.02
Mortar Mixers	Diesel	8	43	3.47	0.68	4.33	0.009	0.274	0.24386	568.3	0.061	2	6	6	0.32	0.06	0.39	0.00	0.02	0.02	51.72	0.01	0.02	0.00	0.02	0.00	0.00	3.23	0.00	
Compressor	Diesel	106	48	4.08	1.32	7.76	0.007	0.686	0.61054	568.3	0.119	2	4	8	3.66	1.18	6.96	0.01	0.62	0.55	509.98	0.11	0.23	0.07	0.44	0.00	0.04	0.03	31.87	0.01
Compactor/Paver/All Terrain Forklift	Diesel	100	62	4.4	1.5	8.75	0.007	0.759	0.67551	568.3	0.135	3	6	8	10.83	3.69	21.53	0.02	1.87	1.66	1398.23	0.33	0.68	0.23	1.35	0.00	0.12	0.10	87.39	0.02
Concrete Truck/Pump Truck	Diesel	300	20	1.82	0.57	5.55	0.006	0.295	0.26255	568.3	0.051	4	6	6	5.78	1.81	17.62	0.02	0.94	0.83	1804.17	0.16	0.36	0.11	1.10	0.00	0.06	0.05	112.76	0.01
<b>TOTAL =</b>														<b>89.61</b>	<b>27.26</b>	<b>221.21</b>	<b>0.22</b>	<b>13.84</b>	<b>12.32</b>	<b>20259.19</b>	<b>2.45</b>	<b>5.60</b>	<b>1.70</b>	<b>13.83</b>	<b>0.01</b>	<b>0.86</b>	<b>0.77</b>	<b>1266.20</b>	<b>0.15</b>	

## MDANG 175th NWS Facility - Fort George G. Meade, Maryland

### Construction Truck Emissions

Note: Construction duration is assumed to be 8 months total (174 days subtracting weekends and holidays).

Proj. Construction Trucks	No. of Trucks	Speed (mph)	VMT (mi/vehicle- day)	CO Running Exhaust (g/mi)	NO <sub>x</sub> Running Exhaust (g/mi)	VOC Running Exhaust (g/mi)	SO <sub>x</sub> Running Exhaust (g/mi)	PM <sub>10</sub>			PM <sub>2.5</sub>			CO <sub>2</sub> Running Exhaust (g/mi)	CH <sub>4</sub> Running Exhaust (g/mi)
								Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)		
Heavy-duty diesel trucks	16	27	60	6.303	17.209	1.262	0.019	0.713	0.036	0.028	0.656	0.009	0.012	1992.669	0.059
<b>Emissions, lbs/day</b>								<b>Emissions, tons/year</b>							
<b>CO</b>	<b>NO<sub>x</sub></b>	<b>VOC</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>VOC</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>
13.34	36.42	2.67	0.04	1.64	1.43	4217.38	0.12	0.83	2.28	0.17	0.00	0.10	0.09	263.59	0.01
<b>TOTAL =</b>								<b>0.83</b>	<b>2.28</b>	<b>0.17</b>	<b>0.00</b>	<b>0.10</b>	<b>0.09</b>	<b>263.59</b>	<b>0.01</b>

Unpaved Road Emissions		PM <sub>10</sub>	PM <sub>2.5</sub>
$E = k(s/12)^a(W/3)^b$	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		6.062671	0.52824
<b>Emissions, tons/year =</b>		<b>0.38</b>	<b>0.03</b>

## MDANG 175th NWS Facility - Fort Goerge G. Meade, Maryland

### Construction Worker Personal Vehicle Emissions

Note: Construction duration is assumed to be 8 months total (174 days subtracting weekends)

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle day)	CO		NO <sub>x</sub>		VOC							
				Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Hot-Soak (g/trip)	Resting Loss (g/hr)	Running Evaporative (g/mi)	Diurnal Evaporative (g/hr)		
Light-duty truck, catalyst	20	33	60	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054		
Vehicle Class	SO <sub>x</sub>		PM <sub>10</sub>				PM <sub>2.5</sub>				CO <sub>2</sub>		CH <sub>4</sub>		
	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	
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	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>	CO	NO <sub>x</sub>	VOCs	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>
8.23	0.78	0.31	0.01	0.09	0.05	1066.0	0.07	0.51	0.05	0.02	0.00	0.01	0.00	66.62	0.00
<b>TOTAL =</b>							<b>0.51</b>	<b>0.05</b>	<b>0.02</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>66.62</b>	<b>0.00</b>	

## MDANG 175th NWS Facility - Fort George G. Meade, Maryland

### 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 conservatively estimated to be 60 miles per day.

Vehicle Class	No. POVs	Speed (mph)	VMT (mi/vehicle day)	CO		NO <sub>x</sub>		VOC							
				Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Hot-Soak (g/trip)	Resting Loss (g/hr)	Running Evaporative (g/mi)	Diurnal Evaporative (g/hr)		
Light-duty truck, catalyst	19	33	60	2.924	11.289	0.284	0.56	0.055	0.816	0.183	0.024	0.047	0.054		
Vehicle Class	SO <sub>x</sub>		PM <sub>10</sub>				PM <sub>2.5</sub>				CO <sub>2</sub>		CH <sub>4</sub>		
	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	Running Exhaust (g/mi)	Start-Up (g/start) <sup>a</sup>	
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	NO <sub>x</sub>	VOC	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>	CO	NO <sub>x</sub>	VOC	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	CH <sub>4</sub>
7.82	0.74	0.29	0.01	0.09	0.05	1012.7	0.07	1.02	0.10	0.04	0.00	0.01	0.01	131.65	0.01
<b>TOTAL =</b>							<b>1.02</b>	<b>0.10</b>	<b>0.04</b>	<b>0.00</b>	<b>0.01</b>	<b>0.01</b>	<b>131.65</b>	<b>0.01</b>	



**APPENDIX C**  
**SITE PHOTOS**





Photo 1: Driving Range Shed to be demolished



Photo 2: Project Area facing northeast



Photo 3: Project Area facing east



Photo 4: Midway Branch along eastern boundary of Project Area



Photo 5: Project Area facing west



Photo 6: Project Area facing south



Photo 7: Previous golf cart paths through Project Area



Photo 8: Floodplain to east of Project Area