

**FINAL**

**ENVIRONMENTAL ASSESSMENT**

**FOR THE CONSTRUCTION OF AN ARMED FORCES RESERVE CENTER AND**

**IMPLEMENTATION OF BRAC05 REALIGNMENT ACTIONS AT**

**BRISTOL, PENNSYLVANIA**



**Prepared for:**

**U.S. Army Reserve 99<sup>th</sup> Regional Readiness Command**

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**April 2008**

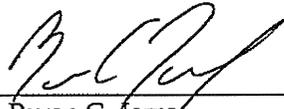
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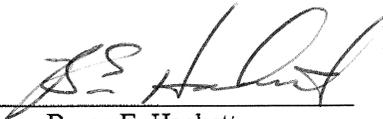


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**Approved by:**

**99<sup>th</sup> REGIONAL READINESS COMMAND**



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Bruce E. Hackett  
Colonel, U.S. Army Reserve  
Director of Public Works



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Date

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## ENVIRONMENTAL ASSESSMENT

**LEAD AGENCY:** Mobile District, U.S. Army Corps of Engineers

**TITLE OF PROPOSED ACTION:** Environmental Assessment for the Construction of an Armed Forces Reserve Center and Implementation of BRAC05 Realignment Actions at Bristol, Pennsylvania

**AFFECTED JURISDICTIONS:** Bucks County, Pennsylvania

**PREPARED BY:** AGEISS Environmental, Inc.

**APPROVED BY:** Col. Bruce Hackett, Director of Public Works, 99<sup>th</sup> Regional Readiness Command

**ABSTRACT:** On September 8, 2005, the Defense Base Realignment and Closure Commission (BRAC Commission) recommended certain realignment actions in Bristol, Pennsylvania. These recommendations were approved by the President on September 23, 2005 and were forwarded to Congress, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The BRAC Commission has recommended the closure of the Philadelphia Memorial United States Armed Forces Reserve Center (AFRC) and Organizational Maintenance Shop (OMS) in Philadelphia, Pennsylvania, and relocation of Army Reserve and Marine Corps Reserve units to a new AFRC with an OMS in Bristol, Pennsylvania, on the site of the existing Bristol Veterans Memorial AFRC.

Based on the environmental impact analyses described in this environmental assessment (EA) it has been determined that implementation of the Proposed Action would not have a significant impact on the quality of the natural or the human environment and would not require mitigation to offset impacts. Because no significant environmental impact would result from implementation of the Proposed Action, an environmental impact statement is not required and a Finding of No Significant Impact (FNSI) will be published in accordance with the National Environmental Policy Act.

**REVIEW PERIOD:** A Notice of Availability (NOA) was published in the *Bucks County Courier Times*, which announced the beginning of the 30-day public review period. In the NOA, interested parties were invited to review and comment on the EA and Draft FNSI, and were informed of the fact that the EA and Draft FNSI would be available via the World Wide Web at [http://www.hqda.army.mil/acsim/brac/env\\_ea\\_review.htm](http://www.hqda.army.mil/acsim/brac/env_ea_review.htm) and at the Margaret R. Grundy Memorial Library, 680 Radcliffe Street, in Bristol, Pennsylvania.

Reviewers were invited to submit comments on the EA and Draft FNSI during the 30-day public comment period via mail, fax, or e-mail to the following:

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## EXECUTIVE SUMMARY

### ES.1 Introduction

This environmental assessment (EA) analyzes and documents environmental effects associated with the U.S. Army's Proposed Action at the site of the Bristol Veterans Memorial Armed Forces Reserve Center (AFRC) ("Bristol") in Bristol, Pennsylvania. This action is to support the U.S. Army Reserve 99<sup>th</sup> Regional Readiness Command (RRC). To enable implementation of Base Realignment and Closure (BRAC) recommendations, the Army proposes to provide necessary facilities to support the changes in force structure.

This EA was developed in accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.), Army Regulation 200-2/Chapter 5 (32 Code of Federal Regulations (CFR) Part 651), and implementing regulations issued by the President's Council on Environmental Quality (CEQ) (40 CFR Parts 1500-1508) as well as guidance provided by the 2005 Army BRAC NEPA Manual.

### ES.2 Background/Setting

The Bristol AFRC property is located in Bristol Township in Bucks County, Pennsylvania, at 2501 Ford Road. It is approximately 18 miles northeast of Philadelphia's city center and approximately 10 miles southwest of Trenton, New Jersey. The property, which comprises approximately 17 acres, is owned by the U.S. Department of Defense (DoD). The existing Bristol AFRC property is used solely to provide tenant organizations the training facilities needed to maintain their state of mission preparedness.

### ES.3 Proposed Action

To support the BRAC recommendations, the Proposed Action includes the closure of the Philadelphia Memorial United States AFRC and Organizational Maintenance Shop (OMS) in Philadelphia, Pennsylvania, and construction of a new 600-member AFRC, OMS, and unheated storage building on the site of the existing Bristol Veterans Memorial AFRC in Bristol, Pennsylvania. The new AFRC would provide administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for eight Army Reserve units and three Marine Corps Reserve units. The OMS would provide work bays and maintenance administrative support. The Proposed Action would also provide unit maintenance training, unit storage, and parking space for military and privately-owned vehicles. The new facilities would be located on the existing Bristol Veterans Memorial AFRC footprint resulting in the requirement for demolition of existing facilities and a temporary lease. Units currently stationed at the Bristol facility would be temporarily stationed in Norristown, Pennsylvania, during construction. The Army estimates that construction would begin in May 2008, and would be completed in February 2010.

The existing Bristol AFRC serves approximately 270 personnel. Under the Proposed Action, up to 370 additional Army Reserve and Marine Corps Reserve personnel would be supported by the Bristol facility. In addition, the facility would employ approximately 20 permanent full-time personnel. The maximum expected use of the new facility would be 351 members per weekend, and there would be parking for 281 privately-owned vehicles (taking into account those who would carpool or use public transportation).

## ES.4 Alternatives

Potential site locations for the AFRC and OMS were screened for inclusion in this EA. Screening criteria consisted of operational constraints, safety constraints, geographic constraints, and existing facility and mission constraints. Based on the selection criteria, two alternatives, the Preferred Alternative and the No Action Alternative, were developed for evaluation in the EA.

Due to the size and configuration of the Bristol site, Anti-terrorism/Force Protection guidance dictates the preferred general facility layout in which the AFRC would be built on the larger, southern portion of the site, and the OMS and military equipment parking would be placed in the northern or front section along Ford Road. This layout is the Preferred Alternative for the Proposed Action.

The second alternative is the No Action Alternative and is required to be carried forward by CEQ. Since the Proposed Action is being driven by Congress, the No Action Alternative is carried forward solely to serve as a benchmark against which to evaluate the Proposed Action.

## ES.5 Environmental Consequences

Twelve environmental and human resource areas were characterized and evaluated for potential impacts from the Preferred Alternative and the No Action Alternative. Significance criteria were developed for the affected resource categories, and for many resource categories, are necessarily qualitative in nature. No potential impacts were classified as significant. Potential impacts of the Proposed Action identified for each resource area are summarized below.

**Land Use.** Under the Preferred Alternative, there would be no changes in land use at the existing Bristol AFRC site, since the site would be used for the same purpose, with new facilities replacing the old ones. There would be no impacts to land use from the Preferred Alternative.

**Aesthetics and Visual Resources.** Implementation of the Preferred Alternative would cause short-term visual impacts on the Bristol property resulting from ground disturbance associated with demolition of the existing structures and construction of the proposed facilities. However, the reclamation of disturbed areas would remove these visual impacts. Some long-term visual impacts at the site of the existing Bristol property would be beneficial, as older, utilitarian structures would be demolished, allowing for a cohesive, modern, and well-landscaped facility. Other long-term impacts would be adverse due to construction and paving of approximately 2 acres of land that currently supports turf grasses and trees; however, these impacts would not be significant because they would be consistent with the aesthetics of surrounding land uses in the light industrial park.

**Air Quality.** Short-term air quality impacts from the Preferred Alternative would occur from temporary and localized construction and demolition activities. Contaminants generated from construction would include particulate matter, vehicle emissions, and increased wind-borne dust (i.e. fugitive dust). Long-term impacts associated with the new AFRC and OMS are not likely to occur. No fueling facilities, underground storage tanks, or paint booths would be required for these facilities. The vehicles associated with the use of these facilities by additional reservists would not be expected to result in significant impacts to air quality. Overall, potential impacts to air quality would not be significant.

**Noise.** Noise associated with the Preferred Alternative would be generated by standard construction equipment. Only a minor increase in ambient noise levels is expected to occur. Noise would also be generated by increased construction traffic on area roadways, but would be limited to certain times of the day.

Long-term noise impacts associated with the proposed AFRC and OMS include grounds maintenance activities, vehicular traffic, noises associated with vehicle maintenance, and noises associated with training efforts. Noise resulting from maintenance activities, vehicular traffic, and training efforts would be limited to certain times of the day and are anticipated only on weekends. Overall, potential noise impacts from the Preferred Alternative would not be significant.

**Geology and Soils.** Because the AFRC, OMS, and parking would mostly be built on the site of existing facilities and pavement, the Preferred Alternative would result in the long-term addition of approximately 2 acres of impervious surfaces to the Bristol property, a site-wide increase in impervious surfaces of approximately 20 percent on the 17-acre site.

Erosion control during construction activities and new vegetation once the construction was completed would minimize erosion of topsoil.

Specific seismic safety design features would be incorporated into the final design of the proposed facilities per requirements of the Pennsylvania Department of Environmental Protection. With appropriate safety measures, there should be no impacts to the new structures from seismic events of magnitudes seen over the last 25 years; however, the possibility exists for seismic events greater than magnitude 5 to occur in the region, and impacts from such an event could be minor to moderate even with the additional safety features.

Overall, potential impacts to geology and soils from the Preferred Alternative would not be significant.

**Water Resources.** There would be no measurable reduction in surface water quality or availability. By capping the subsoil with impervious surfaces, the Preferred Alternative would reduce groundwater recharge locally over the long term by reducing the infiltration of precipitation. The Preferred Alternative would result in the addition of approximately 2 acres of impervious surfaces to those currently on the Bristol property. This reduction of groundwater recharge would not have a significant impact on regional groundwater supplies.

Potential nonpoint storm water impacts would not be significant with implementation of best management practices described in a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would be modified, as needed, to address site specific requirements and monitoring. Point discharges of wastewater are prohibited by existing National Pollutant Discharge Elimination System requirements under the Clean Water Act. Spills would be mitigated using procedures identified in the Spill Prevention Control and Countermeasures plan to reduce potential impacts to surface water or groundwater. Overall, potential impacts to water resources from the Preferred Alternative would not be significant.

**Biological Resources.** The AFRC and OMS would be built on land that has already been developed, so there would not be any loss of native vegetation. Construction of the AFRC and

OMS may affect on-site wildlife through the long-term direct loss of a relatively small amount of habitat and direct mortality of individuals occurring in construction zones. These facilities would result in the direct long-term loss of approximately 2 additional acres of very low productivity habitat for ground-dwelling or nesting species. Facility construction would result in loss of foraging and breeding habitat for some urban species.

Post-construction impacts to wildlife from operation of the AFRC and OMS would not be significant. Species currently using the Bristol property are accustomed to humans and their activity, and would return to the site once construction activity and noise had abated.

The U.S. Fish and Wildlife Service was consulted during development of the EA to ensure that no threatened or endangered species or species proposed for threatened or endangered listing are within the area that would be disturbed. The consultation letter from the 99<sup>th</sup> RRC and the response from the U.S. Fish and Wildlife Service are included in Appendix A. Neither the U.S. Fish and Wildlife Service nor the Army is aware of any resident threatened or endangered species or species proposed for listing as threatened or endangered on the site of the existing Bristol AFRC.

A small (roughly 1,430-square foot), isolated wet area with apparent emergent vegetation occurs on the southern portion of the site south of the existing OMS. Efforts would be made to avoid this area during design layout; however, if it is determined that the design would impact the area then a wetland determination/delineation would be conducted prior to any construction and applicable permits under Section 404 of the Clean Water Act would be obtained.

Overall, potential impacts to biological resources from the Preferred Alternative would not be significant.

**Cultural Resources.** Impacts to cultural resources are not expected since the site has already been developed. The Preferred Alternative would not affect any known National Register of Historic Places (NRHP)-eligible archaeological or historical sites, and no such sites occur in the area of potential effect.

The Bristol property was used as part of the Nike Missile System (called the Nike Ajax Site PH-15) until about 1964. Nike Ajax sites are eligible as a class of Cold War resources under NRHP Criteria Consideration G for properties less than 50 years of age; however, because of the age of the remaining structures (less than 45 years); the lack of site integrity due to demolition, remodeling/rebuilding and changed use; and the availability of other examples of Nike Ajax sites retaining greater site integrity, this site is not eligible for the NRHP. No NRHP-eligible historic properties are located within the project area of potential effect. Therefore, the Army has determined that no historic properties would be affected by the proposed construction of the Bristol AFRC as per 36 CFR 800.4(d).

There are no known archaeological sites located on the Bristol property. The level of disturbance from use of the site as farmland and previous construction activities precludes any further archeological investigation. However, if during construction, any potential historic or archaeological resource is uncovered or inadvertent discoveries are made of Native American human remains and associated funerary objects, sacred objects, or objects of cultural patrimony,

the Cultural Resources Manager for the 99<sup>th</sup> RRC would be contacted, in accordance with typical standard operating procedure for the accidental discovery of archaeological resources or Native American artifacts.

Section 106 consultation and coordination has been completed with the State Historic Preservation Office via the Pennsylvania Historical and Museum Commission. The consultation letter and response, which states that the State Historic Preservation Office concurs with the Army's assessment, are included in Appendix A.

Overall, potential impacts to cultural resources from the Preferred Alternative would not be significant.

**Socioeconomics.** The Preferred Alternative would create a short-term increase of personnel on and around the Bristol site during construction due to the creation of construction jobs. This would be a minor beneficial increase in local socioeconomic resources as there would be creation of jobs and increased use of hotels and businesses surrounding the site. Since incoming personnel under the Proposed Action would be coming from the Philadelphia AFRC, located only 5 miles to the west, and would be at the Bristol AFRC only for weekend training, there would be no influx of personnel on a permanent basis into the region of influence beyond approximately 15 permanent administrative personnel. Overall, potential socioeconomic impacts from the Preferred Alternative would include beneficial short-term impacts during construction and no impacts upon completion. Additionally, there would be no environmental justice impacts at Bristol or the surrounding area, as impacts from the Proposed Action identified in this EA would not be localized or placed primarily on minority and/or low-income populations.

**Transportation.** A small increase in vehicular traffic is expected during the construction of the new facilities. Long-term impacts associated with use of the new AFRC and OMS would include an increase in vehicular traffic on and around the Bristol site associated with training activities. Under the Preferred Alternative, up to 370 additional Army Reserve and Marine Corps Reserve personnel would be assigned to the facility, more than doubling the number of personnel currently using the facility. The maximum expected use of the new facility would be 351 members per weekend, and there would be parking for 281 privately-owned vehicles (taking into account those who would carpool or use public transportation). The increased traffic is not expected to cause a significant disruption to current transportation patterns near the Bristol AFRC; however, the entry road on the site may need to be widened.

**Utilities.** Under the Preferred Alternative, the size of the new AFRC would increase from 44,098 square feet to 106,395 square feet, or about 2.4 times. Personnel would increase from the existing 270 to 640, or by 2.4 times. Accordingly, it would be expected that utility usage during operations of the new AFRC would increase by approximately 2.4 times. This increase in utility usage and waste disposal is not expected to be significant.

**Hazardous and Toxic Substances.** During construction and operations, the use and transportation of hazardous materials that are regulated by the Occupational Safety and Health Administration and Department of Transportation, as well as the creation of hazardous wastes regulated by U.S. Environmental Protection Agency (EPA), may occur. Long-term impacts of the AFRC and OMS may include processing of hazardous wastes, such as paint, de-greasing

chemicals, and metal grindings. The amount of hazardous wastes produced is not expected to necessitate a change in the 99<sup>th</sup> RRC's status as a conditionally exempt small quantity generator. Overall, impacts regarding hazardous and toxic substances from the Preferred Alternative would not be significant.

The Proposed Action would include building demolition and land clearing of the current Bristol AFRC. These actions would be accomplished in accordance with all appropriate environmental laws, rules, and regulations of the DoD, EPA, and the Pennsylvania Department of Environmental Protection. Prior to or concurrent with the site redevelopment actions, the 99<sup>th</sup> RRC would address the environmental findings identified at the site, resulting in an improved environmental condition. Such findings include asbestos-containing materials and lead-based paint in the buildings, one potential PCB-containing transformer, and potential lead contamination of soil associated with a former outdoor firing range. Implementation of the Proposed Action would have a beneficial impact on the environmental condition of the property.

**Cumulative Impacts.** Cumulative impacts were also addressed by considering the impacts of the Proposed Action in combination with impacts from other past, present, and reasonably foreseeable projects. Two reasonably foreseeable future construction and maintenance projects were identified near the Bristol property. The scope of the cumulative effect analysis involved evaluating impacts to the 12 environmental and human resource areas cumulatively by geographic and temporal extent in which the effects would be expected to occur. Cumulative impacts would not be significant.

#### **ES.6 Mitigation Responsibility**

No mitigation measures are required for the Proposed Action discussed in this EA because resulting impacts are not significant.

#### **ES.7 Findings and Conclusions**

As analyzed and discussed in this EA, direct, indirect, and cumulative impacts of the Proposed Action and the No Action Alternative have been considered, and no significant impacts have been identified. Therefore, issuance of a Finding of No Significant Impact is warranted, and preparation of an environmental impact statement is not required.

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## LIST OF ACRONYMS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
ACHP	Advisory Council on Historic Preservation
AFRC	Armed Forces Reserve Center
AT/FP	Anti-terrorism/Force Protection
BMP	best management practice
BRAC	Base Realignment and Closure
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CHPPM	U.S. Army Center for Health Promotion and Preventative Medicine
CO	carbon monoxide
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DoD	U.S. Department of Defense
EA	environmental assessment
ECM	Erosion Control Measure
EIFS	Economic Impact Forecast System
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FNSI	Finding of No Significant Impact
FY	fiscal year
HVAC	heating, ventilation, and air conditioning
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
$\text{NO}_2$	nitrogen dioxide
$\text{NO}_x$	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
$\text{O}_3$	ozone
OMS	Organizational Maintenance Shop
OSHA	Occupational Safety and Health Administration
PADEP	Pennsylvania Department of Environmental Protection
Pb	lead
PCB	polychlorinated biphenyl
$\text{PM}_{2.5}$	particulate matter with an aerodynamic size less than or equal to 2.5 microns
$\text{PM}_{10}$	particulate matter with an aerodynamic size less than or equal to 10 microns
ppm	parts per million
PSD	Prevention of Significant Deterioration

**LIST OF ACRONYMS (continued)**

ROI	region of influence
RRC	Regional Readiness Command
RTV	rational threshold value
SO <sub>2</sub>	sulfur dioxide
SOP	standard operating procedure
SO <sub>x</sub>	sulfur oxides
SPCC	Spill Prevention, Control, and Countermeasures
SVOC	semi-volatile organic compound
SWPPP	Storm Water Pollution Prevention Plan
tpy	tons per year
USACE	U.S. Army Corps of Engineers
UST	underground storage tank
VOC	volatile organic compound

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

### **1.1 Introduction**

On September 8, 2005, the Defense Base Closure and Realignment Commission (“BRAC Commission”) recommended that certain realignment actions occur to units supported by the U.S. Army Reserve 99<sup>th</sup> Regional Readiness Command (RRC) on the site of the Bristol Veterans Memorial Armed Forces Reserve Center (AFRC) (“Bristol”) in Bristol, Pennsylvania. The President approved these recommendations on September 23, 2005, and forwarded them to Congress. The Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The BRAC Commission has recommended the closure of the Philadelphia Memorial United States AFRC and Organizational Maintenance Shop (OMS) in Philadelphia, Pennsylvania, and relocation of Army Reserve and Marine Corps Reserve units to a new AFRC with an OMS in Bristol, Pennsylvania, on the existing Bristol Veterans Memorial Armed Forces Reserve Center site.

To enable implementation of these recommendations, the Army proposes to provide necessary facilities to support the changes in force structure. This environmental assessment (EA) analyzes and documents environmental effects associated with the Army’s Proposed Action at Bristol. Figure 1-1 shows the location of the Bristol site. Details of the Proposed Action are described in Section 2.0.

### **1.2 Purpose and Need**

The purpose of the Proposed Action is to implement the BRAC Commission’s recommendations pertaining to Bristol.

The need for the Proposed Action is to improve the ability of the Nation to respond rapidly to challenges of the 21<sup>st</sup> century. The Army’s mission is to defend the United States and its territories, support national policies and objectives, and defeat nations responsible for aggression that endanger the peace and security of the United States.

To carry out these tasks, the Army must adapt to changing world conditions and must improve its capabilities to respond to a variety of circumstances across the full spectrum of military operations. The following discusses the major initiatives that contribute to the Army’s need for the Proposed Action at Bristol.



**Base Realignment and Closure.** In previous rounds of BRAC, the explicit goal was to save money and downsize the military to reap a “peace dividend.” In the 2005 BRAC round, the U.S. Department of Defense (DoD) sought to reorganize its installation infrastructure to most efficiently support its forces, increase operational readiness, and facilitate new ways of doing business. Thus, BRAC represents more than cost savings. It supports advancing the goals of transformation, improving military capabilities, and enhancing military value. The Army needs to carry out the BRAC recommendations at Bristol to achieve the objectives for which Congress established the BRAC process.

**Installation Sustainability.** On October 1, 2004, the Secretary of the Army and the Chief of Staff issued *The Army Strategy for the Environment* (Department of the Army 2004). The strategy focuses on the interrelationships of mission, environment, and community. A sustainable installation simultaneously meets current and future mission requirements, safeguards human health, improves quality of life, and enhances the natural environment. A sustained natural environment is necessary to allow the Army to train and maintain military readiness.

### 1.3 Scope

This EA was developed in accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.); implementing regulations issued by the President’s Council on Environmental Quality (CEQ) (40 Code of Federal Regulations (CFR) Parts 1500-1508); and Army Regulation 200-2, *Environmental Effects of Army Actions* (32 CFR Part 651). Its purpose is to inform decision makers and the public of the likely environmental consequences of the Proposed Action and Alternatives.

This EA identifies, documents, and evaluates environmental effects of the proposed realignments at Bristol. An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archaeologists, historians, and military technicians analyzed the Proposed Action and alternatives in light of existing conditions and identified relevant beneficial and adverse effects associated with the actions. Section 2.0 describes the Proposed Action and Section 3.0 describes the alternatives.

The Defense Base Closure and Realignment Act of 1990 specifies that NEPA does not apply to actions of the President, the BRAC Commission, or the DoD, except “(i) during the process of property disposal, and (ii) during the process of relocating functions from a military installation being closed or realigned to another military installation after the receiving installation has been selected but before the functions are relocated (Sec. 2905(c)(2)(A), Public Law 101-510, as amended).” The law further specifies that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned do not have to consider “(i) the need for closing or realigning the military installation which has been recommended for closure or realignment by the Commission, (ii) the need for transferring functions to any military installation which has been selected as the receiving installation, or (iii) military installations alternative to those recommended or selected (Sec. 2905(c)(2)(B)).” The Commission’s deliberation and decision, as well as the need for closing or realigning a military installation, are exempt from NEPA. Accordingly, this EA does not address the need for realignment.

The decision to be made is how the Army will implement the BRAC recommendations at Bristol and, as appropriate, carry out mitigation measures that would reduce effects on resources. The decision to implement realignment will be based on strategic, operational, environmental, and other considerations, including the results of this analysis.

## 1.4 Public Involvement

The Army invites public participation in the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. All agencies, organizations, and members of the public having a potential interest in the Proposed Action, including minority, low-income, disadvantaged, and Native American groups, are urged to participate in the decision-making process.

Public participation opportunities with respect to this EA and decision-making on the Proposed Action are guided by 32 CFR Part 651. Upon completion, the EA was made available to the public for 30 days, along with a draft Finding of No Significant Impact (FNSI). At the end of the 30-day public review period, the Army considers all comments submitted by individuals, agencies, or organizations on the Proposed Action, the EA, and draft FNSI. As appropriate, the Army may then execute the FNSI and proceed with implementation of the Proposed Action. If it is determined prior to issuance of a final FNSI that implementation of the Proposed Action would result in significant impacts, the Army will publish in the *Federal Register* a notice of intent to prepare an environmental impact statement, commit to mitigation actions sufficient to reduce impacts below significance levels, or not take the action.

A Notice of Availability was published in the *Bucks County Courier Times*, which announced the beginning of the 30-day public review period. The EA and Draft FNSI were made available during the public comment period on the World Wide Web at [http://www.hqda.army.mil/acsim/brac/env\\_ea\\_review.htm](http://www.hqda.army.mil/acsim/brac/env_ea_review.htm), and were also available for review during the public comment period at the Margaret R. Grundy Memorial Library at 680 Radcliffe Street in Bristol, Pennsylvania. No comments were received on the EA or Draft FNSI during the public comment period.

Reviewers were invited to submit comments on the EA and Draft FNSI during the 30-day public comment period via mail, fax, or e-mail to the following:

Mr. Jeff Hrzic  
99th Regional Readiness Command  
99 Soldiers Lane  
Coraopolis, Pennsylvania 15108  
e-mail [jeff.hrzic1@usar.army.mil](mailto:jeff.hrzic1@usar.army.mil)  
fax (412) 604-8156

## 1.5 Regulatory Framework

A decision on whether to proceed with the Proposed Action rests on numerous factors such as mission requirements, schedule, availability of funding, and environmental considerations. In addressing environmental considerations, the 99<sup>th</sup> RRC is guided by relevant statutes (and their

implementing regulations) and Executive Orders (EOs) that establish standards and provide guidance on environmental and natural resources management and planning. These include the Clean Air Act, Clean Water Act (CWA), Noise Control Act, Endangered Species Act (ESA), National Historic Preservation Act (NHPA), Archaeological Resources Protection Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation and Liability Act, and Toxic Substance Control Act. EOs bearing on the Proposed Action include EO 11988 (*Floodplain Management*), EO 11990 (*Protection of Wetlands*), EO 12088 (*Federal Compliance with Pollution Control Standards*), EO 12580 (*Superfund Implementation*), 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 13101 (*Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*), EO 13123 (*Greening the Government Through Efficient Energy Management*), EO 13148 (*Greening the Government Through Leadership in Environmental Management*), EO 13175 (*Consultation and Coordination with Indian Tribal Governments*), and EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*). The full text of the laws, regulations, and EOs is available on the Defense Environmental Network & Information Exchange web site at <https://www.denix.osd.mil>.

Management plans specifically applicable to Bristol include the Polychlorinated Biphenyl (PCB) Management Plan, Asbestos Management Plan, and Regional Spill Contingency Plan. These plans are addressed in various sections throughout this EA when relevant to particular environmental resources and conditions. Other management plans could be adopted according to mission changes.

## 2.0 PROPOSED ACTION

To support the BRAC recommendations, the Proposed Action includes construction of a new 600-member AFRC, OMS, and unheated storage building on the site of the existing Bristol Veterans Memorial AFRC in Bristol, Pennsylvania. The Proposed Action also includes relocation of Army Reserve and Marine Corps Reserve units currently at the Philadelphia Memorial United States AFRC and OMS in Philadelphia, Pennsylvania, to the new facilities in Bristol, Pennsylvania. The new AFRC would provide administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for eight Army Reserve units and three Marine Corps Reserve units. The OMS would provide work bays and maintenance administrative support. The Proposed Action would also provide unit maintenance training, unit storage, and parking space for military and privately-owned vehicles. The new facilities would be located on the existing Bristol Veterans Memorial AFRC footprint resulting in the requirement for demolition of existing facilities and a temporary lease. Units currently stationed at the Bristol facility would be temporarily stationed in Norristown, Pennsylvania, during construction. The Army estimates that construction would begin in May 2008, and would be completed in February 2010.

The proposed AFRC and OMS would consist of permanent construction with heating, ventilation, and air conditioning (HVAC) systems, plumbing, mechanical systems, security systems, and electrical systems. The unheated storage building would also be of permanent construction.

The AFRC/OMS/unheated storage complex would consist of the following:

- 94,572 square foot AFRC
- 8,937 square foot OMS
- 2,886 square foot organizational unit storage

Supporting actions would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. Accessibility for the disabled would be provided. Force protection (physical security) measures will be incorporated into the design including maximum standoff distance from roads, parking areas, and vehicle unloading areas. Berms, heavy landscaping, and bollards will be used to prevent access when standoff distances cannot be maintained. A 900-square-foot mobile kitchen pad with roadway access would be constructed adjacent to the AFRC. Approximately 12 acres of facilities, parking, and roadways would be constructed within the 17-acre area. The Proposed Action also entails the demolition of two existing buildings constructed in 1974, which total approximately 39,049 square feet and dismantling of a steel storage building measuring approximately 5,049 square feet.

The existing Bristol AFRC serves approximately 270 personnel. Under the Proposed Action, up to 370 additional Army Reserve and Marine Corps Reserve personnel would be supported by the Bristol facility. In addition, the facility would employ approximately 20 permanent full-time personnel. The maximum expected use of the new facility would be 351 members per weekend, and there would be parking for 281 privately-owned vehicles (taking into account those who would carpool or use public transportation).

Activities at the AFRC would be training-related, with no weapons firing. On training weekends, reservists would either commute to the AFRC or stay in local hotels. Activities at the OMS would be limited to operator-level maintenance, such as checking and topping-off fluids in military vehicles. Petroleum, oil, and lubricants use and waste would be minimal, and service beyond this scope would be performed off-site. No vehicle fueling operations would be conducted on the site.

### 3.0 ALTERNATIVES

To support and sustain its current and future mission, the 99<sup>th</sup> RRC has programmed the construction of new facilities or use of existing facilities, including structures, roads, and parking lots. Details for each of the proposed alternatives are described below in Section 3.1. Section 3.2 discusses the alternatives carried forward in this EA and Section 3.3 discusses the other alternatives considered.

#### 3.1 Proposed Alternatives Screened for Evaluation

Figure 3-1 shows the current site layout. Potential site layouts for the new AFRC and OMS were screened for inclusion in this EA. Screening criteria consists of operational constraints, safety constraints, geographic constraints, and existing facility and mission constraints. Reuse of existing facilities was not carried forward, because there are no existing facilities available that could adequately house or support the mission of the proposed AFRC and OMS. The following describes the constraints considered in the evaluation process.

**Safety Constraints** – include engineering and operational safety constraints, such as explosive arcs and Anti-terrorism/Force Protection (AT/FP) guidance

**Geographic Constraints** – include availability of sufficient land area, access and security availability, or proximity to operationally related facilities and utilities

**Existing Facility and Mission Constraints** – include interference with existing missions and training, infrastructure demand, or incompatibility with language in BRAC legislation

**Operational Constraints** – include the cost of relocating existing facilities and construction of new infrastructure

A total of six alternatives, including the No Action Alternative, were screened for evaluation in this EA, as described below.

##### 3.1.1 PREFERRED ALTERNATIVE

Due to the size and configuration of the Bristol site, AT/FP guidance dictates the preferred general facility layout. To achieve the appropriate AT/FP setbacks, the AFRC would be built on the larger, southern portion of the site, and the OMS and military equipment parking would be placed in the northern or front section along Ford Road (Figure 3-2). With the expected increase in vehicular traffic, the entry road on the site may need to be widened. Based on the results of the screening described in Section 3.1, this is the Preferred Alternative.



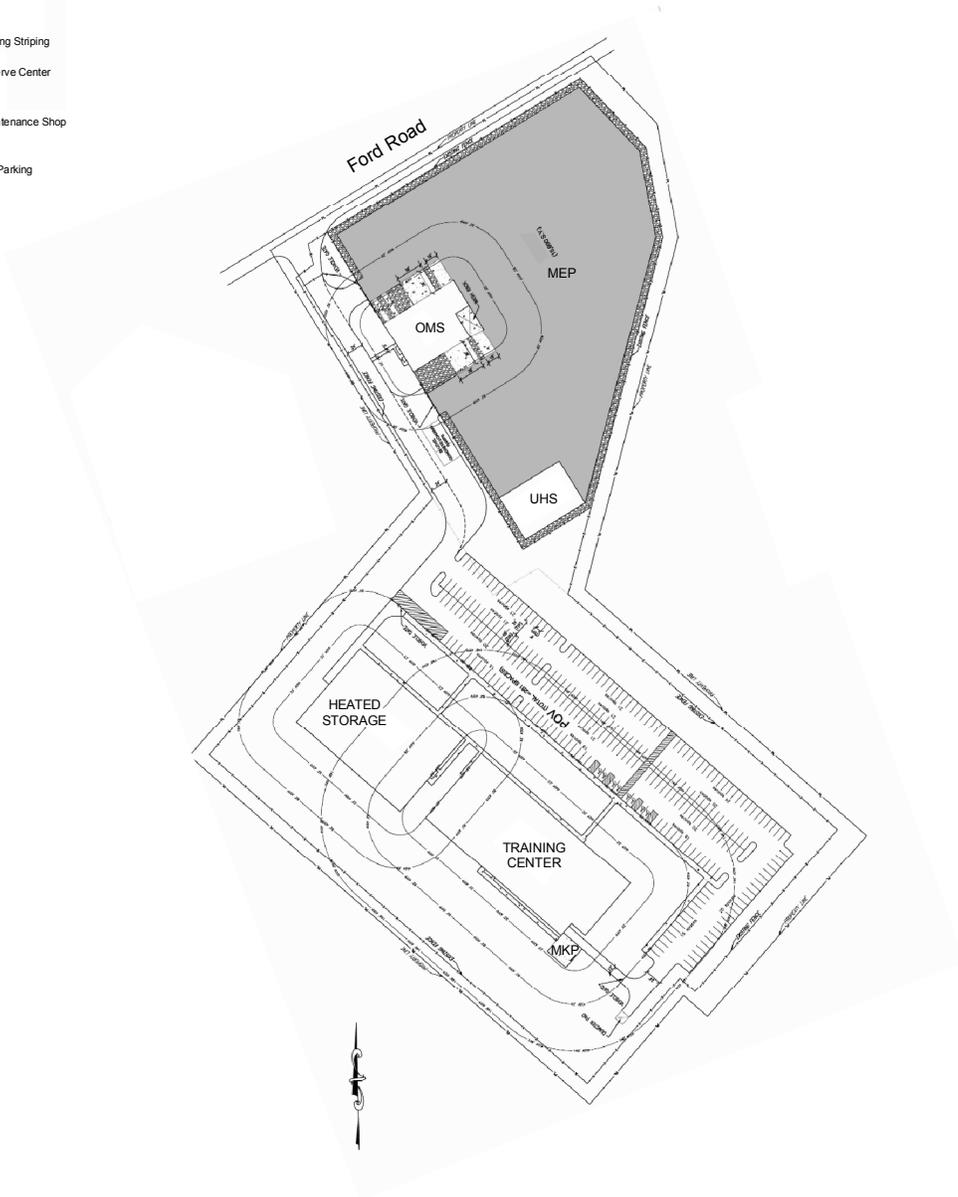
Image courtesy of U.S. Geological Survey

Note: The Bristol AFRC property and the PH-15 control area are discussed in the context of the Nike missile program in Section 4.9.1.1; the PH-15 control area is not a part of the Proposed Action.

**Figure 3-1. Existing Bristol Site and PH-15 Control Area.**

Legend

-  Property Line
-  MEP Parking
-  Concrete Pavement and Concrete Sidewalks
-  Stone Mulch
-  Proposed Curb
-  Security Fence
-  Handicap and Parking Striping
- AFRC Armed Forces Reserve Center
- UHS Unheated Storage
- OMS Organizational Maintenance Shop
- MKP Mobile Kitchen Pad
- MEP Military Equipment Parking



Prepared For:  
 U.S. Army Corps of Engineers, Mobile District

Figure 3-2  
 Preliminary Bristol AFRC/OMS Site Layout



### 3.1.2 ALTERNATIVE ACTIONS

Four alternative actions were considered and analyzed with the screening criteria described in Section 3.1. These alternatives are summarized below:

***Alteration or addition to the Philadelphia Memorial AFRC.*** The Philadelphia Memorial AFRC consists of a training building of 79,922 square feet and an OMS of 8,858 square feet. It was constructed in 1965 and is located on 9 acres, which is 49 percent utilized. The buildings require significant upgrades to the structure in conformance with seismic requirements, mechanical and electrical systems, building information systems, roofs, interior and exterior finishes, and AT/FP standards. In addition, changes to the buildings interior layout would be required to meet current unit organization and mission requirements. The non-functional layout of the building perpetuates organizational inefficiencies. Therefore, this is not a feasible alternative to meet the project objective.

***Addition or alteration to the Bristol AFRC.*** The existing Bristol Veterans Memorial AFRC consists of a training building of 34,000 square feet and an OMS of 5,049 square feet. It was constructed in 1974 and is located on 16.46 acres. The facility is currently used by more personnel than it was designed to support. The buildings require significant upgrades to the structure in conformance with seismic requirements, mechanical and electrical systems, building information systems, roofs, interior and exterior finishes, and AT/FP standards. In addition, changes to the buildings interior layout would be required to meet current unit organization and mission requirements. The non-functional layout of the building perpetuates organizational inefficiencies. Therefore, this is not a feasible alternative to meet the project objective.

***Lease or contract of other facilities.*** No appropriate facilities exist in the area near the existing Bristol AFRC that are capable of meeting this requirement. Further, construction outside the existing Bristol AFRC site would be counter-productive to the war fighting, operational, and security considerations of this overall relocation plan and would not meet the BRAC requirement. Therefore, this alternative is not feasible.

***Other DoD Installations.*** No suitable training facilities exist in Bristol that are available for a Full Facility Revitalization or construction addition/alteration. There are no other suitable DoD installations in the area and moving to somewhere other than Bristol would not be in compliance with the BRAC language. Therefore, this alternative is not feasible.

### 3.1.3 NO ACTION ALTERNATIVE

The No Action Alternative is included as required by the CEQ regulations to identify the existing baseline conditions against which potential impacts are evaluated. The No Action Alternative must be described because it is the baseline condition or the current status of the environment if the Proposed Action is not implemented. For realignment actions directed by the BRAC Commission, it is noted that the No Action Alternative is not feasible.

Under the No Action Alternative, the proposed facilities would not be constructed or renovated to accommodate the BRAC actions as described in Section 2.0. Under the No Action Alternative, the relocation of Army Reserve and Marine Corps Reserve units would not be implemented.

### **3.2 Alternatives Carried Forward**

The Preferred Alternative and the No Action Alternative are carried forward and evaluated in this EA. CEQ requires that the No Action Alternative be carried forward. Since the Proposed Action is being driven by Congress, the No Action Alternative is carried forward solely to serve as a benchmark against which to evaluate the Proposed Action.

### **3.3 Alternatives Considered and Not Carried Forward**

The four alternatives in Section 3.1.2 were considered and not carried forward for environmental analysis and design/construct practicability based upon the criteria discussed in Section 3.1, including those criteria dictated by the BRAC legislation. These alternatives included alteration or addition to the Philadelphia Memorial AFRC, addition or alteration to the Bristol AFRC, the lease or contract of other facilities, and the use of other DoD installations. None of these alternatives meet mission requirements and are therefore not suitable alternatives to the Proposed Action.

## **4.0 AFFECTED ENVIRONMENT AND CONSEQUENCES**

### **4.1 Introduction**

This chapter describes the existing environmental and human resources that could potentially be affected by the Proposed Action and alternatives. The environment described in this chapter is the baseline for the consequences that are presented for each resource and each alternative. The region of influence (ROI) or area of potential effect for each resource category is the existing Bristol AFRC site and its surroundings, unless stated otherwise in the individual resource category discussion.

This chapter also describes potential impacts for each environmental and human resource. An impact is defined as a consequence from modification to the existing environment due to a proposed action or alternative. Impacts can be beneficial or adverse, can be a primary result of an action (direct) or a secondary result (indirect), and can be permanent or long lasting (long term) or temporary and of short duration (short term). Impacts can vary in degree from a slightly noticeable change to a total change in the environment.

For this EA, short-term impacts are defined as those impacts resulting from construction, renovation, or demolition activities (e.g., those that are of temporary duration), whereas long-term impacts are those resulting from the presence of new facilities and operation of the proposed new facilities once they are constructed and commissioned for operation.

Under NEPA, a review of significant irreversible and irretrievable effects that result from development of the Proposed Action is required (40 CFR 1502.16). Irreversible commitments of resources are those resulting from impacts to resources so they cannot be completely restored to their original condition. Irretrievable commitments of resources are those that occur when a resource is removed or consumed and will therefore never be available to future generations for their use. For resources or subjects where irreversible or irretrievable effects would result, such effects are discussed with short and long-term impacts.

Significance criteria were developed for the affected resource categories, and for many resource categories, are necessarily qualitative in nature. Quantitative criteria can be established when there are specific numerical limits established by regulation or industry standard. These criteria are based on existing regulatory standards, scientific and environmental documentation, and/or professional judgment. Impacts are classified as significant or not significant based on the significance criteria. Impacts do not necessarily mean negative changes, and any detectable change is not, in and of itself, considered to be negative. In the following discussions, to highlight adverse impacts for the decision maker, the impacts are considered adverse unless identified as beneficial.

The affected environment and baseline conditions are described for each resource in general terms for the existing Bristol AFRC site or the resource-specific ROI. The affected environment description for each resource is followed by the potential impacts to the resource from Alternative 1 (the Preferred Alternative) and the No Action Alternative.

## **4.2 Land Use**

### **4.2.1 AFFECTED ENVIRONMENT**

This section describes existing land use conditions on and surrounding the Bristol AFRC site. It considers natural land uses and land uses that reflect human modification. Natural land use classifications include wildlife areas, forests, and other open or undeveloped areas. Human land uses include residential, commercial, industrial, utilities, agricultural, recreational, and other developed uses. Management plans, policies, ordinances, and regulations determine the types of uses that are allowable, or protect specially designated or environmentally sensitive uses.

The following sections discuss the regional geographic setting and location, installation land use, and current and future development. The ROI for land use is the land within and adjacent to the Proposed Action project area.

#### **4.2.1.1 Regional Geographic Setting and Location**

The Bristol AFRC property is located in Bristol Township within Bucks County, Pennsylvania, at 2501 Ford Road. It is approximately 18 miles northeast of Philadelphia's city center and approximately 10 miles southwest of Trenton, New Jersey (see Figure 1-1 for a vicinity map). The property, which comprises approximately 17 acres, is owned by the DoD.

#### **4.2.1.2 Installation Land Use**

The existing Bristol AFRC property is used for a single purpose: to provide tenant organizations the training facilities needed to maintain their state of mission preparedness. As such, there is no plan in place to coordinate conflicting uses and future growth on the site. For the existing facilities, the AFRC and newer steel storage building are on the front or northern portion of the property and the OMS is in the rear or southern portion of the property.

#### **4.2.1.3 Current and Future Development in the Region of Influence**

The property surrounding the Bristol AFRC site is entirely zoned as a light manufacturing district, with areas zoned for planned-industrial and residential uses approximately 0.25 mile to the west and north. There are currently no land use conflicts in the ROI.

Other than the facilities proposed under the Proposed Action, no other development of the Bristol AFRC property has been planned. Off-site, the Ford Road overpass over Interstate Highway 95, approximately 0.25 mile east of the entrance gate of the Bristol AFRC site, is planned for replacement or modification sometime between 2008 and 2014 (PATC 2007), but this will not cause any changes to current or future land use.

### **4.2.2 CONSEQUENCES**

Considerations for impacts to land use include the land on and adjacent to the Proposed Action project area, the physical features that influence current or proposed uses, pertinent land use plans and regulations, and land availability. Conformity with existing land use is of utmost importance.

Potential impacts to land use are considered significant if the Proposed Action would:

- Conflict with applicable ordinances and/or permit requirements;
- Cause nonconformance with the current general plans and land use plans, or preclude adjacent or nearby properties from being used for existing activities; or
- Conflict with established uses of an area requiring mitigation.

#### **4.2.2.1 Alternative 1 – Preferred Alternative**

Overall, potential impacts to land use from the Preferred Alternative would not be significant. The Preferred Alternative would be contained within the existing Bristol property, which sets its own land use and zoning designations as needed, and would not present conflicts or nonconformance with current local or state land use or zoning designations. The Bristol property would continue to be used for the same purpose, with new facilities replacing the old ones. Existing land uses external to the installation would not be affected by on-post land-use decisions related to the Preferred Alternative; thus, there would be no discernible impact to these land uses. Impacts to land use are the same for demolition of the existing facilities and construction and operation of the proposed facilities.

Under the Preferred Alternative, there would be a relatively long-term commitment of the land resources required for construction and operation of new facilities; this commitment of land resources is irreversible because the land likely cannot be completely restored to its original condition and other uses will be precluded during the time the land is being used for the proposed use, but it does not constitute an irretrievable commitment of resources because the use is not consumptive and the land would remain available to future generations.

#### **4.2.2.2 No Action Alternative**

Under the No Action Alternative, there would be no changes in land use at the existing Bristol AFRC site.

### **4.3 Aesthetics and Visual Resources**

#### **4.3.1 AFFECTED ENVIRONMENT**

This section describes the aesthetic and visual resource conditions at the site of the existing Bristol AFRC. The visual resources of the existing Bristol AFRC include natural and manmade physical features that provide the landscape its character and value as an environmental resource. Landscape features that form a viewer's overall impression about an area include landform, vegetation, water, color, adjacent scenery, scarcity, and constructed modifications to the natural setting. The ROI for aesthetics includes the areas visible from the Proposed Action construction locations and areas from which the Proposed Action construction locations are visible.

The Bristol AFRC site and the surrounding area are characterized by the relatively flat topography of the Atlantic coastal plain. The AFRC property is landscaped with grassy areas and very few decorative trees and shrubs. Parking areas, driveways, walkways, and building footprints occupy the remainder of the property. A small forested area is located adjacent to the northwest corner of the property. A mix of architectural styles is present on the property and in the surrounding area, although because the existing AFRC is in an industrial-park setting, most structures are essentially utilitarian in form. Of the buildings on the existing AFRC site, two are

of brick masonry construction and were built in 1974, and the third is a steel storage structure built in 2005. All three buildings are strictly utilitarian in form and currently have little aesthetic appeal.

Views from the existing AFRC site are dominated by a corporate industrial park to the north, west, and east, and by a small forested area to the northwest. Directly to the south is Interstate Highway 95, beyond which the industrial park continues.

### **4.3.2 CONSEQUENCES**

Potential impacts to aesthetic and visual resources are considered significant if the Proposed Action would substantially degrade the natural or constructed physical features at the Bristol AFRC site that provide the property its character and value as an environmental resource. The magnitude of any impact would be primarily determined by the number of viewers affected, viewer sensitivity to changes, distance of viewing, and compatibility with existing land use.

#### **4.3.2.1 Alternative 1 – Preferred Alternative**

Overall, potential impacts to aesthetics and visual resources from the Preferred Alternative would not be significant. The Preferred Alternative would cause short-term visual impacts on the Bristol AFRC property resulting from ground disturbance associated with demolition of the existing structures and construction of the proposed facilities. However, the reclamation of disturbed areas would remove these visual impacts.

Construction of the AFRC and OMS on the site of the existing Bristol facilities would result in some long-term beneficial visual impacts to the site, as older, utilitarian structures would be demolished and replaced, allowing for a cohesive, modern, and well-landscaped complex of buildings. Additionally, force protection measures would be incorporated as practicable into the design of the facility, such that aesthetically-unappealing bollards would be unnecessary. The Preferred Alternative would also result in long-term adverse visual impacts, because approximately 2 acres of land currently supporting turf grasses and trees would be disturbed for construction and paving, and because approximately 450 feet of the property that fronts Ford Road that currently supports turf grasses and trees would be paved. However, these impacts would not be significant as they would be consistent with the aesthetics of surrounding land uses in the light industrial park. Operations at the AFRC and OMS would result in minor adverse aesthetic impacts, including increased traffic and nighttime light, resulting from increased use during weekends when the facilities are in use by tenant organizations.

#### **4.3.2.2 No Action Alternative**

Under the No Action Alternative, there would be no effects on the viewshed or on the aesthetic values of the region.

## **4.4 Air Quality**

### **4.4.1 AFFECTED ENVIRONMENT**

This section describes the existing air quality conditions at and surrounding the existing Bristol AFRC. For analysis purposes, the ROI for air quality is defined as Bucks County, Pennsylvania, where the site is located. Ambient air quality monitoring and standards are discussed first,

followed by regional ambient air quality and pollutant emissions, and sources of air pollutants at the existing Bristol AFRC site.

#### 4.4.1.1 Air Quality Monitoring and Standards

The ambient air quality in an area can be characterized in terms of whether it complies with the primary and secondary National Ambient Air Quality Standards (NAAQS). The Clean Air Act (42 U.S.C. 7401 et seq.) requires the U.S. Environmental Protection Agency (EPA) to set NAAQS for pollutants considered harmful to public health and the environment. NAAQS have been established for seven criteria pollutants: carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO<sub>2</sub>); ozone (O<sub>3</sub>); particulate matter with an aerodynamic size less than or equal to 10 microns (PM<sub>10</sub>); particulate matter with an aerodynamic size less than or equal to 2.5 microns (PM<sub>2.5</sub>); and sulfur dioxide (SO<sub>2</sub>). These pollutants are believed to be detrimental to public health and the environment, and are known to cause property damage. Table 4-1 lists the NAAQS values for each criteria pollutant. Pennsylvania has adopted all of the NAAQS standards as well as several standards of its own, which are listed in Table 4-2.

**Table 4-1.** National Ambient Air Quality Standards.

Pollutant	Standard Value
<b>Carbon monoxide (CO)</b>	
8-hour average	9 ppm
1-hour average	35 ppm
<b>Lead (Pb)</b>	
Quarterly average	1.5 µg/m <sup>3</sup>
<b>Nitrogen dioxide (NO<sub>2</sub>)</b>	
Annual arithmetic mean	0.053 ppm
<b>Ozone (O<sub>3</sub>)</b>	
8-hour average	0.08 ppm
<b>Particulate matter less than 10 microns (PM<sub>10</sub>)</b>	
24-hour average	150 µg/m <sup>3</sup>
<b>Particulate matter less than 2.5 microns (PM<sub>2.5</sub>)</b>	
Annual arithmetic mean	15.0 µg/m <sup>3</sup>
24-hour average	35 µg/m <sup>3</sup>
<b>Sulfur dioxide (SO<sub>2</sub>)</b>	
Annual arithmetic mean	0.03 ppm
24-hour average	0.14 ppm

Source: 40 CFR 50.4 through 50.13  
 µg/m<sup>3</sup> micrograms per cubic meter  
 ppm parts per million

**Table 4-2.** Other Pennsylvania Ambient Air Quality Standards.

Pollutant	Standard Value
<b>Beryllium</b>	
30-day average	0.01 $\mu\text{g}/\text{m}^3$
<b>Fluorides</b>	
24-hour average	5 $\mu\text{g}/\text{m}^3$
<b>Hydrogen Sulfide</b>	
24-hour average	0.005 ppm
1-hour average	0.1 ppm

Source: 25 Pennsylvania Code § 131.3

$\mu\text{g}/\text{m}^3$  micrograms per cubic meter

ppm parts per million

General air quality monitoring is conducted in areas of high population density and near major sources of air pollutant emissions. Rural areas are typically not considered in such monitoring. Regions that are in compliance with the NAAQS are designated as attainment areas. Areas for which no monitoring data is available are designated as unclassified and are by default considered to be in attainment of the NAAQS. In areas where the applicable NAAQS are not being met, a non-attainment status is designated.

The existing Bristol AFRC site is located in EPA Region 3, in the Philadelphia-Wilmington-Atlantic City consolidated metropolitan statistical area, which includes counties in Pennsylvania, New Jersey, Delaware, and Maryland. Bucks County is designated as in attainment of CO, NO<sub>2</sub>, PM<sub>10</sub>, SO<sub>2</sub>, and Pb NAAQS. However, as part of the Philadelphia-Wilmington-Atlantic City area, Bucks County is designated as in non-attainment of O<sub>3</sub> and PM<sub>2.5</sub> NAAQS (PADEP 2007). This designation requires the Commonwealth of Pennsylvania to develop and implement plans to improve air quality.

To regulate the emission levels resulting from a project, federal actions located in non-attainment areas are required to demonstrate compliance with the general conformity guidelines established in 40 CFR Part 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans (the Rule). Section 93.153 of the Rule sets the applicability requirements for projects subject to the Rule through the establishment of *de minimis* levels for annual criteria pollutant emissions. These *de minimis* levels are set according to criteria pollutant non-attainment area designations. Projects below the *de minimis* levels are not subject to the Rule. Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to direct and indirect sources of emissions that can occur during the construction and operational phases of the action.

In addition to evaluation of air emissions against *de minimis* levels, emissions are also evaluated for regional significance. A federal action that does not exceed the threshold emission rates of criteria pollutants may still be subject to a general conformity determination if the direct and indirect emissions from the action exceed 10 percent of the total emissions inventory for a particular criteria pollutant in a non-attainment or maintenance area. If the emissions exceed this 10 percent threshold, the federal action is considered to be a “regionally significant” activity, and thus, the general conformity rules apply.

#### 4.4.1.2 Ambient Air Quality Conditions

The only permanent ambient air quality monitoring station in Bucks County is located approximately 0.75 mile southeast of the existing Bristol AFRC site, on Rockview Lane in Bristol Township, Bucks County, Pennsylvania. The station monitors CO, NO<sub>2</sub>, O<sub>3</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> concentrations, but does not monitor Pb, beryllium, fluoride, or hydrogen sulfide concentrations. Data from this station and others in the region are used by the EPA to calculate the Air Quality Index on a daily basis for five major air pollutants regulated by the Clean Air Act: ground-level O<sub>3</sub>, particulate matter, CO, SO<sub>2</sub>, and NO<sub>2</sub>. At and above a certain Air Quality Index level, air quality is deemed to be unhealthy for sensitive groups, who may be subject to negative health effects. Sensitive groups may include those with lung or heart disease, who would be negatively affected at lower levels of ground level O<sub>3</sub> and particulate matter than the rest of the general public. At a certain higher Index level, air quality is deemed to be unhealthy to the general public, with more severe effects possible for those in sensitive groups.

According to the EPA's Air Quality Index Report for Bucks County, Pennsylvania, in 2002 the County experienced 10 days where air quality was considered unhealthy for sensitive groups and 9 unhealthy days for the general public. In 2003, there were 8 unhealthy days for sensitive groups and 2 unhealthy days. In 2004, 2005, and 2006, the area experienced 2, 7, and 7 unhealthy days for sensitive groups, respectively, and no unhealthy days. These data indicate that air quality has been slightly improving in the region, but still fluctuates significantly from year to year.

Regional air pollutant emissions from reported values are listed below in Table 4-3 for Bucks County, Pennsylvania, for the year 2001, the most recent year available.

**Table 4-3.** Air Emissions Reported for Bucks County, Pennsylvania, for Calendar Year 2001.

Pollutant	2001 Emissions (tpy)		Total
	Area Source <sup>a</sup>	Point Source <sup>b</sup>	
Particulate matter less than 2.5 microns (PM <sub>2.5</sub> )	4,194	112	4,306
Particulate matter less than 10 microns (PM <sub>10</sub> )	13,445	155	13,600
Carbon monoxide (CO)	149,953	398	150,351
Nitrogen oxides (NO <sub>x</sub> )	15,116	1,736	16,852
Sulfur oxides (SO <sub>x</sub> )	6,454	416	6,870
Volatile organic compounds (VOCs)	21,008	2,019	23,027

Source: EPA 2007

tpy tons per year

a. Any source of air pollution that is released over a relatively small area but which cannot be classified as a point source, and which may include vehicles and other small engines, small businesses, and household activities that release hydrocarbons.

b. A stationary location or fixed facility from which pollutants are discharged, such as a factory smokestack.

#### 4.4.1.3 Air Emission Sources at Bristol

The existing Bristol AFRC has minimal annual pollutant emissions and thus operates under a minor permit. Emissions sources at the facility include boilers (natural gas and diesel), pesticide applications, solvent wiping and cleaning, asphalt coating, and battery charging.

## 4.4.2 CONSEQUENCES

Potential impacts to air quality are considered significant if the Proposed Action would:

- Increase ambient air pollution above any NAAQS;
- Contribute to an existing violation of any NAAQS;
- Interfere with or delay timely attainment of NAAQS; or
- Impair visibility within any federally mandated Prevention of Significant Deterioration (PSD) Class I area.

### 4.4.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to air quality from the Preferred Alternative would not be significant. Short-term air quality impacts from the Preferred Alternative would occur from construction and demolition activities associated with the movement of heavy equipment. Construction activities would be temporary and would occur in a localized area. Contaminants generated from construction would include particulate matter, vehicle emissions, and increased wind-borne dust (i.e. fugitive dust). Total fugitive dust emissions could be as high as 14 tons per month of these activities, although the Natural Resources Conservation Service considers the soils on the site to be only slightly susceptible to wind erosion (NRCS 2002), so actual emissions would likely be substantially lower. In addition, erosion control measures (ECMs) would be implemented to prevent generation of fugitive dust. Within the construction sites, appropriate ECMs would be identified that would provide optimum soil suppression. ECMs typically utilize (but are not limited to) either wind speed reduction or water suppression strategies (or both) during demolition, construction, and renovation by fencing or wetting areas of soil disturbance and debris. In addition to identifying the type of surface treatment, an alternative ECM would be identified in case the original is found to be ineffective.

Vehicular and demolition and construction equipment exhaust would be a source of pollutant emissions, but would have a negligible impact on air quality. The emissions from these construction activities and workers traveling to and from the site would be minor compared to the total existing vehicular emissions in the area. Impacts would not be significant.

Long-term impacts associated with operation of the proposed AFRC and OMS are not likely to occur. No fueling facilities, underground storage tanks (USTs), or paint booths would be required for the AFRC and OMS. The vehicles associated with the use of these facilities by additional reservists would not be expected to result in significant impacts to air quality because the additional traffic would be spread across all weekends of the month.

A permit application for emissions from the new facility would be completed and all applicable rules and regulations would be followed. In the unlikely event that emissions from the proposed facility would exceed *de minimis* levels, the 99<sup>th</sup> RRC would perform a conformity analysis in accordance with 40 CFR Part 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans.

#### **4.4.2.2 No Action Alternative**

Implementation of the No Action Alternative would not change current conditions and therefore would not affect the current air quality conditions in the region.

### **4.5 Noise**

#### **4.5.1 AFFECTED ENVIRONMENT**

This section describes noise conditions at the existing Bristol AFRC site. Noise measurement is discussed first, followed by noise sources at the existing Bristol AFRC site. The ROI for noise is the site of the existing Bristol AFRC and the immediate surrounding area in a portion of Bristol Township, Pennsylvania.

##### **4.5.1.1 Noise Measurement**

Noise is generally defined as unwanted sound. Sound is all around us; it becomes noise when it interferes with normal activities such as speech, concentration, or sleep. Noise associated with military installations is a factor in land use planning both on- and off-post. Noise emanates from vehicular traffic associated with new facilities and from project sites during construction. Ambient noise (the existing background noise environment) can be generated by a number of noise sources, including mobile sources, such as automobiles and trucks, and stationary sources such as construction sites, machinery, or industrial operations. In addition, there is an existing and variable level of natural ambient noise from sources such as wind, streams and rivers, wildlife and other sources.

Sound is measured with instruments that record instantaneous sound levels in decibels (dB). A-weighted sound level measurements (dBA) are used to characterize sound levels that can be sensed by the human ear. The typical measurement for quieter sounds, such as rustling leaves or a quiet room, is from 20 to 30 dBA. Conversational speech is commonly 60 dBA, and a home lawn mower measures approximately 98 dBA. All sound levels discussed in this EA are A-weighted.

##### **4.5.1.2 Noise Sources at Bristol**

Noise is generated from existing AFRC/OMS operations and the vehicles associated with the facilities. Aside from negligible HVAC-related noise, the majority of facilities on military installations do not generate high levels of noise themselves. Some industrial related facilities may produce noise, and during power outages, operation of emergency generators could cause minor, short-term noise impacts. Most noise is usually created by vehicles associated with these facilities, including organizational vehicles used for training and operations, government and private delivery vehicles, commuter shuttles or buses, and personal vehicles used for commuting purposes.

## 4.5.2 CONSEQUENCES

Potential noise impacts resulting from the Proposed Action are evaluated with respect to the potential for:

- Annoyance – noise can impact the performance of various every day activities such as communication and watching television in residential areas.
- Hearing loss – the EPA recommends limiting daily equivalent energy to 70 dBA, approximately 75 dBA day-night average sound level, to protect against hearing impairment over a period of 40 years (day-night average sound level is an average sound level generated by all operations during an average or busy 24-hour period, with sound levels of nighttime noise events emphasized by adding a 10-dB weighting).
- Sleep interference, which is of great concern in residential areas.

The standard threshold for determining at what point noise impacts become a nuisance is 65 dBA day-night average sound level.

### 4.5.2.1 Alternative 1 – Preferred Alternative

Overall, potential noise impacts from the Preferred Alternative would not be significant. Minor adverse short-term noise impacts related to the construction of the AFRC, OMS, and other associated facilities would occur. Off-site in the general vicinity of the proposed site, there are some low density residential areas approximately 0.25 mile to the west and north that could be subject to minor, short-term adverse impacts from noise generated during the construction of the proposed facilities. Construction equipment may generate noise levels up to 80 dBA; however, this type of equipment generally operates about 40 percent of the time when it is being used at a construction site (ANSI 1980). Noise levels would not be significant compared to the daily operations of the industrial park and traffic on Interstate Highway 95, and the effects of construction noise could be reduced by employing best management practices (BMPs), such as confining construction activities to normal working hours and employing noise-controlled construction equipment to the extent possible.

Once the facilities become operational, adverse long-term noise effects would not be expected from their day-to-day use. Once facilities are constructed, noise would be generated by facility operations and the vehicles associated with these facilities, as described above for the existing facilities. Again, however, the noise impact created by facility and vehicle operations would not be significant compared to existing ambient noise.

Under the Proposed Action, approximately 370 additional personnel would use the AFRC complex at Bristol. However, as a reserve center, the majority of these individuals would report to the site on weekends and not all would report on the same weekend. The maximum number of individuals reporting on any given weekend is expected to be approximately 351 and would only contribute negligible amounts of noise to the current environment. The estimated 20 full-time personnel commuting to the site daily would also only contribute negligible amounts of traffic noise to the current noise environment.

#### **4.5.2.2 No Action Alternative**

Under the No Action Alternative, no changes or impacts would occur to noise levels on or surrounding the existing Bristol AFRC property.

### **4.6 Geology and Soils**

#### **4.6.1 AFFECTED ENVIRONMENT**

This section describes the geology and soil conditions at the existing Bristol AFRC site. Geologic and topographic conditions are discussed first, followed by soils, and prime farmland. The ROI for geology and soils is the land within the Proposed Action project area.

##### **4.6.1.1 Geologic and Topographic Conditions**

The land on the Bristol property is level to gently sloping toward the north. The elevation of the site ranges between 60 and 70 feet above mean sea level (MSL). It is located in the Lowland and Intermediate Upland section of the Atlantic Coastal Plain physiographic province. Underlying the soil in this region is unconsolidated to poorly consolidated sand and gravel resulting from erosion and deposition by ancient meanders of the Delaware River. The sand and gravel layers are further underlain by schist, gneiss, and other metamorphic rocks (DCNR 2000).

Southeastern Pennsylvania is the Commonwealth's most seismically active area, although the largest magnitude seismic activity in the last 200 years measured only 4.7 on the Richter scale (DCNR 2003). There is a 2 percent probability that southeastern Pennsylvania will experience an earthquake with peak horizontal ground acceleration exceeding 14 percent g (acceleration due to gravity) in the next 50 years (DCNR 2003). The Pennsylvania Department of Environmental Protection requires that structures built in areas that can expect peak horizontal ground acceleration to exceed 10 percent g with a probability of 10 percent in 250 years (which is equivalent to 2 percent probability in 50 years) incorporate specific seismic safety design features (DCNR 2003).

##### **4.6.1.2 Soils**

The nearly flat land occupied by the existing Bristol AFRC is covered by soils represented by three mapping units. Soil on the northern and southern ends of the property is Delaware Loam, which is characterized by good drainage and low potential for surface runoff but highly susceptible to wind erosion. The soil on the second-most northern quarter of the property is Othello Loam, which is poorly drained and has a very high potential for surface runoff but is only slightly susceptible to wind erosion. The soil on the third quarter from the north end is Alton Gravelly Loam, characterized by good drainage, very low potential for surface runoff, and only slight susceptibility to wind erosion.

##### **4.6.1.3 Prime Farmland**

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. Prime farmland is protected by the Farmland Protection Policy Act; however, urban lands and lands that are used for national defense purposes are exempt [7 CFR 658.3(b)] from the provisions of the Farmland Protection Policy Act (7 CFR Parts 657 and 658). In a more rural setting, the

Alton Gravelly Loam and Delaware Loam occurring on the Bristol site could be considered Prime Farmland soils.

#### **4.6.2 CONSEQUENCES**

Potential impacts to geology or soils are considered significant if the Proposed Action would:

- Expose people or structures to major geologic hazards;
- Cause substantial erosion or siltation;
- Cause substantial land sliding; or
- Cause substantial damage to project structures/facilities.

##### **4.6.2.1 Alternative 1 – Preferred Alternative**

Overall, potential impacts to geology and soils from the Preferred Alternative would not be significant. The proposed facilities would reduce water infiltration by capping the subsoil with impervious surfaces. Because the AFRC, OMS, and parking would mostly be built on the site of existing facilities and pavement, the Preferred Alternative would result in the long-term addition of approximately 2 acres of impervious surfaces to the Bristol property, a site-wide increase in impervious surfaces of approximately 20 percent on the 17-acre site.

Specific seismic safety design features would be incorporated into the final design of the proposed facilities per requirements of the Pennsylvania Department of Environmental Protection. With appropriate safety measures, there should be no impacts to the new structures from seismic events of magnitudes seen over the last 25 years; however, the possibility exists for seismic events greater than magnitude 5 to occur in the region, and impacts from such an event could be minor to moderate even with the additional safety features.

Demolition of the existing Bristol AFRC and construction of a new AFRC and OMS would disturb existing ground cover and increase the potential for soil erosion during the site preparation and construction phases. Irreversible commitments of resources would include a minimal amount of soil loss through either wind or water erosion during construction activities. BMPs for erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and would reduce the potential effects to insignificant levels. Erosion control during construction activities would be undertaken with the use of hay bales and silt fencing, as appropriate, to prevent the movement of soils into drainage ditches or low-lying areas, and could also include scheduling construction activities for periods of lowest rainfall. Once the facilities are operational and new vegetation is in place, additional erosion of topsoil would be minimal and would be limited or mitigated through adherence to a storm water management plan.

##### **4.6.2.2 No Action Alternative**

Under the No Action Alternative, no changes or impacts would occur to geologic or soil resources.

## **4.7 Water Resources**

### **4.7.1 AFFECTED ENVIRONMENT**

This section describes water resources on the site of the existing Bristol AFRC, including surface and groundwater resources. Surface water includes lakes, rivers, and streams and is important for a variety of reasons, including economic, ecological, recreational, and human health. Groundwater comprises the subsurface hydrogeologic resources of the property's physical environment. This section also discusses floodplains. Wetlands are discussed in Section 4.8.1.4. The ROI for water resources is the Bristol AFRC site and areas downstream from the Proposed Action project area.

#### **4.7.1.1 Surface Water**

The existing Bristol AFRC is in the Delaware River Valley in the Neshaminy watershed. The major surface water features in the vicinity of the Bristol AFRC site are Neshaminy Creek, approximately 0.6 mile west of the site, and the Delaware River, approximately 2.5 miles south of the site. Neshaminy Creek flows into the Delaware, which flows south to empty into Delaware Bay and the Atlantic Ocean. There is no flowing surface water on the site of the existing Bristol AFRC.

#### **4.7.1.2 Hydrogeology/Groundwater**

Groundwater underlying the Atlantic Coastal Plain in the ROI is replenished by precipitation being absorbed into the soil and underlying strata and by infiltration of water from the Delaware River. This area forms the most extensive aquifer in the lower Delaware River Valley. In 1990, groundwater composed 22 percent of total water use in Bucks County and 44 percent of total water use in the Commonwealth (Fleeger 1999). The sources of the municipal water used at the Bristol AFRC site are groundwater and the Delaware River. The shallow water table in the vicinity of the Bristol property is 10 feet below ground surface, and the direction of flow is towards the north/northeast.

Four monitoring wells were installed on the existing Bristol AFRC site in 2002 to monitor for potential contamination emanating from the underground missile storage silos remaining from the property's former use as a Nike missile launch area (see Section 4.9.1.1 for a description of the site in the context of the Nike missile program, and see Section 4.13.1.3 for a description of groundwater sampling results).

#### **4.7.1.3 Floodplains**

EO 11988, *Flood Plain Management*, requires that development in floodplains be avoided if practicable. The existing Bristol AFRC site is completely outside of the 100-year floodplain as shown on Federal Emergency Management Agency flood hazard maps.

## 4.7.2 CONSEQUENCES

Potential impacts to water resources, including surface water and groundwater are considered significant if the Proposed Action would:

- Irreversibly diminish water resource availability, quality, and beneficial uses;
- Reduce water availability or interfere with a potable supply or water habitat;
- Create or contribute to overdraft of groundwater or exceed a safe annual yield of water supply sources;
- Result in an adverse effect on water quality or an endangerment to public health by creating or worsening adverse health hazard conditions;
- Result in a threat or damage to unique hydrological characteristics; or
- Violate an established law or regulation that has been adopted to protect or manage water resources of an area.

Potential impacts that would be considered significant related to floodplain management include:

- Potential damage to structures located in the floodplain; and
- Changes to the extent, elevation, or other features of the floodplain as a result of flood protection measures or other structures being silted in or removed from the floodplain.

### 4.7.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to water resources from the Preferred Alternative would not be significant. There would be no measurable reduction in surface water quality or availability. By capping the subsoil with impervious surfaces, the Preferred Alternative would reduce groundwater recharge locally over the long term by reducing the infiltration of precipitation (see Section 4.6.2.1). The Preferred Alternative would result in the addition of approximately 2 acres of impervious surfaces to those currently on the Bristol property, a site-wide increase in impervious surfaces of approximately 20 percent. This reduction of groundwater recharge would not have a significant impact on regional groundwater supplies.

Demolition of the existing AFRC and OMS and construction of the proposed new AFRC and OMS would disturb existing ground cover and increase the potential for soil erosion during the site preparation and construction phases. BMPs for erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and therefore potential effects would not be significant. Erosion control during construction activities would be undertaken with the use of hay bales and silt fencing, as appropriate, to prevent the movement of soils into drainage ditches or low-lying areas, and could also include scheduling construction activities for periods of lowest rainfall.

If any of the existing monitoring wells would be removed, removal would take place in accordance with Pennsylvania Department of Environmental Protection (PADEP) guidelines for well abandonment. These guidelines are listed in Chapter 7 of the Department's Groundwater Monitoring Guidance Manual.

Potential nonpoint storm water impacts would not be significant with implementation of BMPs, and as should be described in a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP

would be modified, as needed, to address site specific requirements and monitoring. Point discharges of wastewater are prohibited by existing National Pollutant Discharge Elimination System (NPDES) requirements under the CWA. Spills would be mitigated using procedures identified in the Spill Prevention Control and Countermeasures (SPCC) plan to reduce potential impacts to surface water or groundwater.

Because the Proposed Action does not entail construction within the 100-year floodplain, there would be no impacts to floodplains from the Proposed Action, and there are no impacts to Proposed Action structures caused by building in a floodplain.

#### **4.7.2.2 No Action Alternative**

Under the No Action Alternative, no changes or impacts would occur to water resources.

### **4.8 Biological Resources**

#### **4.8.1 AFFECTED ENVIRONMENT**

This section describes biological resources at the existing Bristol AFRC site. It focuses on plant and animal species or habitat types that are typical or are an important element of the ecosystem, are of special category importance (of special interest due to societal concerns), or are protected under state or federal law or statute regulatory requirement. Vegetation is discussed first, followed by wildlife, sensitive species, and wetlands. The ROI for biological resources is the land within the Proposed Action project area.

##### **4.8.1.1 Vegetation**

As it is in an urban, developed area, the site of the existing Bristol AFRC does not currently support native plant communities. Rather, as is typical on surrounding properties, vegetation consists of turf grasses with infestations of common lawn weeds, as well as scattered, cultivated ornamental trees and shrubs. The exception is a stand of approximately 3 acres of young hardwood trees, which is off-site but which is immediately adjacent to the northwest portion of the Bristol property.

##### **4.8.1.2 Wildlife**

Wildlife at the existing Bristol AFRC is typical of the urban wildlife found in the region. White-tailed deer (*Odocoileus virginianus*) are the largest animals typically seen at the site. Other common species include groundhogs (*Marmota monax*), red (*Vulpes vulpes*) or gray foxes (*Urocyon cinereoargenteus*), opossums (*Didelphis virginiana*), Eastern cottontail rabbits (*Sylvilagus floridanus*), and squirrels (*Sciurus* spp.). The most common bird on the property is the common pigeon, or rock dove (*Columba livia*).

##### **4.8.1.3 Sensitive Species**

Under Section 7 of the ESA, the Army is mandated to use their authority to ensure actions are approved, funded, or carried out to protect both flora and fauna that are considered threatened and endangered species or proposed for listing as threatened or endangered species on the Bristol site. In compliance with the ESA, informal consultation has been completed with the U.S. Fish and Wildlife Service, and a copy of the consultation letter sent by the 99<sup>th</sup> RRC and response from the U.S. Fish and Wildlife Service may be found in Appendix A. Neither the U.S. Fish and

Wildlife Service nor the Army is aware of any resident threatened or endangered species or species proposed for listing as threatened or endangered on the site of the existing Bristol AFRC.

#### **4.8.1.4 Wetlands**

Wetlands are defined by the U.S. Army Corps of Engineers (USACE) and the EPA based on the presence of wetland vegetation, wetland hydrology, and hydric soils with certain land area considerations. Wetlands and other surface water features, which may include intermittent and perennial streams, are generally considered “waters of the United States” by the USACE, and under their definition of “jurisdictional waters/features,” are protected under Section 404 of the CWA. Activities in wetlands are also regulated under Title 25 of Pennsylvania Code, Chapter 105.

No formal delineation of wetlands has been performed on the Bristol site, although no jurisdictional wetlands on the property are recorded in the National Wetlands Inventory (USDI-USFWS 1995). A small (roughly 1,430-square foot), isolated wet area with apparent emergent vegetation occurs on the southern portion of the site south of the existing OMS.

#### **4.8.2 CONSEQUENCES**

Potential impacts to biological resources are considered significant if the Proposed Action would:

- Affect a threatened or endangered species;
- Substantially diminish habitat for a plant or animal species;
- Substantially diminish a regionally or locally important plant or animal species;
- Interfere substantially with wildlife movement or reproductive behavior;
- Result in a substantial infusion of exotic plant or animal species; or
- Destroy, lose, or degrade jurisdictional wetlands (as defined by Section 404 of the CWA).

EO 11990, *Protection of Wetlands*, requires federal agencies to avoid actions, to the extent practicable, which would result in the location of facilities in wetlands.

##### **4.8.2.1 Alternative 1 – Preferred Alternative**

Overall, potential impacts to biological resources from the Preferred Alternative would not be significant. The Preferred Alternative would have no overall effect on biodiversity or regional plant and animal populations.

Demolition of the existing Bristol AFRC structures and construction of the proposed new AFRC and OMS would cause short-term impacts on the vegetation surrounding construction sites, but over the long term, existing vegetation around the sites would be expected to remain the same. Irreversible commitments of resources would include a small loss of native vegetation in those areas that would not be replanted (that is, previously vegetated areas where buildings or pavement would be located). Any exposed soil resulting from the construction activities would be quickly stabilized with sod. BMPs for erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and therefore potential effects would not be significant. The AFRC and OMS would be built on land that has already been developed,

so there would not be any loss of native vegetation. A few isolated landscaping trees may have to be removed depending on the final site design. Potential impacts to vegetation would not be significant.

Generally, projects located in previously disturbed or industrial land use areas have little or no effect on migratory bird species. However, all projects and their site locations should plan for and identify the possible presence of migratory bird species. If migratory bird species are encountered, protection from either disturbance or removal of their habitat would be evaluated and measures taken to mitigate any habitat loss or to protect the species.

Construction of the AFRC and OMS may affect on-site wildlife through the long-term direct loss of a relatively small amount of habitat and direct mortality of individuals occurring in construction zones. These facilities would result in the direct long-term loss of approximately 2 additional acres of very low productivity habitat for ground-dwelling or nesting species. Facility construction would result in loss of foraging and breeding habitat for some urban species.

Post-construction impacts to wildlife from operation of the AFRC and OMS would not be significant. Species currently using the Bristol property are accustomed to humans and their activity, and would return to the site once construction activity and noise had abated.

After reviewing the details of the Preferred Alternative, the U.S. Fish and Wildlife Service reported that, except for occasional transient species, no federally listed or proposed threatened or endangered species are known to occur within the ROI. Therefore, no impacts to such species would be expected as a result of implementing the Preferred Alternative. A copy of the Service's response may be found in Appendix A.

Efforts would be made to avoid the small, isolated wet area south of the existing OMS during design layout; however, if it is determined that the design would impact the area then a wetland determination/delineation would be conducted prior to any construction and applicable permits under Section 404 of the CWA would be obtained. If USACE concurs that it is not a regulatory wetland, special consideration would still have to be made during the design, construction, and operational phases of the AFRC to account for the presence of this feature. Disruption of water drainage patterns could result in flooding and/or property damage, and removal of vegetation from in or around the wetland could result in erosion with soil being carried by stormwater to Neshaminy Creek, as well as loss of natural wetland function. Implementation of mitigation, coordinated through USACE if required, or special consideration of the feature during design, would ensure that impacts to wetlands would not be significant.

#### **4.8.2.2 No Action Alternative**

Under the No Action Alternative, no changes or impacts would occur to biological resources.

### **4.9 Cultural Resources**

#### **4.9.1 AFFECTED ENVIRONMENT**

This section describes the cultural resource conditions on the existing Bristol AFRC property. The prehistoric and historic background of the area is summarized first, followed by the status of cultural resource inventories and Section 106 consultations, and Native American resources.

#### **4.9.1.1 Prehistoric and Historic Background**

No significant information regarding the prehistoric use of the Bristol site has been located, and there are no known archaeological sites located on the Bristol property. The level of disturbance from use of the site as farmland and previous construction activities precludes any further archeological investigation.

Development of the site from farmland began in 1955 and the site was used as part of the Nike Missile System [Nike Ajax Site Philadelphia (PH)-15] until about 1964, when the property was transferred to the U.S. Army Reserve Command and the Nike Missile System was discontinued. Currently, the property is used as a U.S. Army Reserve training facility. As shown in Figure 3-1, PH-15 was divided into two parts, a launch area and an administration/control area. The proposed AFRC is located on the launch area. Ed Thelen's Nike Missile Web Site, located at <http://ed-thelen.org/loc-p.html#Pennsylvania>, is an excellent resource for information on the Nike system and specifically on PH-15 and formed the basis of the Army's findings regarding the history and integrity of the site.

Three underground concrete missile storage silos are the only features remaining on the site from this prior use. These silos have been paved over and the paved area is currently used for military vehicle parking; thus, these remaining features are neither visible nor accessible, although the presence of these underground silos has been verified by recent site reconnaissance (Weston 2006). The control area portion of Nike site PH-15 is located approximately 0.75 mile north-northeast of the Bristol property and consists of a perimeter fence and foundations of some buildings but no other structures. There are three existing buildings on the Bristol property that would be demolished under the Proposed Action.

Two of the buildings (the existing AFRC and OMS) are of brick masonry and were constructed in 1974, and the third is a steel storage shed erected in 2005. Neither portion of Nike site PH-15 was documented by the Historic American Engineering Record; little remains available for documentation at this time. Examination of other comparative Nike Ajax sites at <http://ed-thelen.org/loc-p.html#Pennsylvania> shows PH-15 to be very low in terms of integrity of location, setting and materials.

The properties affected by the Proposed Action are not a part of any National Register of Historic Places (NRHP)-eligible historic district, nor is any NRHP-eligible property or historic district within the area of potential effect.

#### **4.9.1.2 Status of Cultural Resource Inventories and Section 106 Consultations**

Section 110 of the NHPA requires federal agencies to locate, inventory, and nominate to the NRHP all resources that are recommended eligible for inclusion in the NRHP.

Nike Ajax sites are eligible as a class of Cold War resources under NRHP Criteria Consideration G for properties less than 50 years of age; however, because of the age of the remaining structures (less than 45 years); the lack of site integrity due to demolition, remodeling/rebuilding and changed use; and the availability of other examples of Nike Ajax sites retaining greater site integrity, the site is not eligible for the NRHP.

Section 106 consultation and coordination has been completed with the State Historic Preservation Office via the Pennsylvania Historical and Museum Commission. The consultation letter and response, which states that the State Historic Preservation Office concurs with the Army's assessment, are included in Appendix A.

#### **4.9.1.3 Native American Resources**

No Native American concerns regarding the Proposed Action have been identified.

#### **4.9.2 CONSEQUENCES**

Potential impacts to historic properties and/or archaeological resources are considered significant if the Proposed Action would:

- Physically destroy, damage, or alter all or part of the property;
- Physically destroy, damage, alter or remove items from archaeological contexts without a proper mitigation plan;
- Isolate the property from or alter the character of the property's setting when that character contributes to the property's qualification for the NRHP;
- Introduce visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
- Neglect a property resulting in its deterioration or destruction; or
- Transfer, lease, or sell the property (36 CFR 800.9[b]) without a proper preservation plan.

##### **4.9.2.1 Alternative 1 – Preferred Alternative**

Although there could be minor short-term impacts during construction, overall potential impacts to cultural resources from the Preferred Alternative would not be significant. The Preferred Alternative would not affect any known NRHP-eligible archaeological or historical sites, and no such sites occur in the area of potential effect.

Based on the background study and field assessment, no NRHP-eligible historic properties are located within the project area of potential effect. Therefore, the Army has determined that no NRHP-eligible historic properties would be affected by the proposed construction of the Bristol AFRC as per 36 CFR 800.4(d). As provided in Appendix A, the State Historic Preservation Office has concurred by letter with this assessment.

If, during construction, any potential historic or archaeological resource is uncovered or inadvertent discoveries are made of Native American human remains and associated funerary objects, sacred objects, or objects of cultural patrimony, the Cultural Resources Manager for the 99<sup>th</sup> RRC would be contacted, in accordance with typical standard operating procedure for the accidental discovery of archaeological resources or Native American artifacts.

If the federally recognized tribes contacted in connection with this undertaking respond and raise concerns regarding issues of importance to the respective tribes, the 99<sup>th</sup> RRC will address these concerns as soon as practical.

#### **4.9.2.2 No Action Alternative**

Under the No Action Alternative, no changes or impacts would occur to cultural and archaeological resources.

### **4.10 Socioeconomics**

#### **4.10.1 AFFECTED ENVIRONMENT**

The Proposed Action includes the closure of the Philadelphia Memorial United States AFRC and OMS in Philadelphia, Pennsylvania, and construction of a new 600-member AFRC, OMS, and unheated storage building on the site of the existing Bristol Veterans Memorial AFRC in Bristol, Pennsylvania. The Bristol AFRC is approximately 5 miles due east of the Philadelphia AFRC. The two facilities are in different counties (the Bristol AFRC is in Bucks County and the Philadelphia AFRC is in Philadelphia County). The county line is approximately 1.5 miles due east of the Philadelphia AFRC and approximately 3.5 miles due west of the Bristol AFRC. For the purposes of this EA, the ROI is considered to be Bucks County, Pennsylvania. This section describes the existing socioeconomic conditions for Bucks County. Socioeconomic factors include economic development, demographics, housing, and environmental justice.

##### **4.10.1.1 Economic Development**

The largest township in Bucks County is Bensalem which is adjacent to Bristol Township to the east. The population of Bensalem is approximately 58,000 and the population of Bristol Township is approximately 54,000, making the area the most populated in the county. According to the Bucks County tax office, the county as a whole is currently experiencing a 4.3 percent increase in population growth.

In 2000, the workforce in the county totaled approximately 300,000 people. The top three industries in Bucks County were services (11 percent), retail/wholesale trade (18 percent), and manufacturing (16 percent) (U.S. Census Bureau 2000).

In 2000, the median income for a household in the county was about \$60,000, and the median income for a family was about \$69,000. The per capita income for the county was about \$27,000.

##### **4.10.1.2 Demographics**

As of the year 2000, the estimated population of Bucks County was about 600,000 people, 220,000 households, and 160,000 families. The racial makeup of the county was about 90 percent White, 4 percent Black, and 3 percent Asian, with other races comprising the remainder of the population. About 90 percent of the population graduated from high school and 30 percent were college graduates.

##### **4.10.1.3 Housing**

The U.S. Census for the year 2000 identifies Bucks County as having a total of about 220,000 housing units. This number is calculated by adding renter-occupied housing units (50,000) to the number of owner-occupied housing units (170,000). The median value of houses in Bucks County was \$163,000, and the median monthly rent was about \$740 (U.S. Census Bureau 2000).

#### 4.10.1.4 Environmental Justice

Environmental justice is the fair treatment for people of all races, cultures, and incomes, regarding the development and implementation (or lack thereof) of environmental laws, regulations, and policies. EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, directs federal agencies to address environmental and human health conditions in minority and low-income communities. A memorandum from former President Clinton concerning EO 12898 stated that federal agencies would collect and analyze information concerning a project's effects on minorities or low-income groups when required by NEPA. If such investigations find that minority or low-income groups experience a disproportionate adverse effect, then avoidance or mitigation measures are necessary.

In Bucks County, about 3 percent of families and 5 percent of the population were below the poverty line in 2000, including 5 percent of those under age 18 and 6 percent of those age 65 or over (U.S. Census Bureau 2000). In 2000, the poverty guideline for a family of four was an annual income of \$17,603. For a family of three, it was \$13,738. The national rate for people living in poverty was 11.3 percent in 2000 (U.S. Census Bureau News 2001).

#### 4.10.2 CONSEQUENCES

Potential socioeconomic impacts are considered significant if the Proposed Action would cause:

- Substantial gains or losses in population and/or employment; or
- Disequilibrium in the housing market, such as severe housing shortages or surpluses, resulting in substantial property value changes.

Potential environmental justice impacts are considered significant if the Proposed Action would cause disproportionate effects on low-income and/or minority populations.

##### 4.10.2.1 Alternative 1 – Preferred Alternative

Overall, potential socioeconomic impacts from the Preferred Alternative would not be significant. The Preferred Alternative would cause beneficial short-term impacts during construction and beneficial long-term impacts upon completion. Socioeconomic impacts are discussed below in terms of two phases: demolition of the current AFRC and construction of a new AFRC on the existing site; and operating the AFRC as a training facility for Army and Marine Corps Reserve units.

The economic effects of the demolition and construction phases of the Proposed Action were estimated using the Economic Impact Forecast System (EIFS) model, a computer based economic tool that calculates multipliers to estimate the direct and indirect effects resulting from a given action. Changes in spending and employment associated with the demolition and construction represent the direct effects of the action. Based on the input data and calculated multipliers, the model estimates changes in sales volume, income, employment, and population in the ROI, accounting for the direct and indirect effects of the action. For purposes of this analysis, a change is considered significant if it falls outside the historical range of ROI economic variation. To determine the historical range of economic variation, the EIFS model calculates a rational threshold value (RTV) profile for the ROI. This analytical process uses historical data for the ROI and calculates fluctuations in sales volume, income, employment, and

population patterns. The historical extremes for the ROI become the thresholds of significance (i.e., the RTVs) for social and economic change. If the estimated effect of an action falls above the positive RTV or below the negative RTV, the effect is considered to be significant. For this analysis, the ROI is Bucks County, Pennsylvania and the change in local expenditures refers to the estimated demolition and construction spending for the new Bristol AFRC.

Based on the EIFS model, the Proposed Action would generate about 100 direct and 210 indirect jobs in the economic ROI during demolition and construction activities. This increase in employment would represent a 0.11 percent increase in the region's employment levels and would fall short of the positive RTV of 3.15 percent to make any significant positive difference. It should be noted that the increased employment and any other economic benefits associated with demolition and construction would only be short-term and would be spread out over the lifespan of the project construction. The Proposed Action would also generate positive changes in the other economic indicators estimated by the EIFS model, including a 0.27 percent increase in sales volume, and a 0.07 percent increase in regional personal income. However, these increases are very minor and do not exceed the positive RTVs for their respective categories, and are therefore not significant. The EIFS model output for the proposed BRAC actions at Bristol may be found in Appendix B.

Since incoming personnel under the Proposed Action would be coming from the Philadelphia AFRC, located only 5 miles to the west, and would be at the Bristol AFRC only for weekend training, there would be no influx of personnel on a permanent basis into the ROI beyond approximately 15 permanent administrative personnel. No significant economic impact in the ROI would be expected during the operations phase of the Proposed Action.

There would be no environmental justice impacts at Bristol or in the surrounding area, as impacts from the Proposed Action identified in this EA would not be localized or placed primarily on minority and/or low-income populations.

#### **4.10.2.2 No Action Alternative**

Under the No Action Alternative there would be no changes to existing socioeconomic conditions within the ROI.

### **4.11 Transportation**

#### **4.11.1 AFFECTED ENVIRONMENT**

This section describes the general traffic conditions within the ROI in terms of access and circulation. The ROI for transportation is defined as the Bristol AFRC and the surrounding areas up to a radius of 3.5 miles, the distance to the county line.

##### **4.11.1.1 Roadways and Traffic**

The Bristol AFRC is located northeast of the city of Philadelphia, in the southwest quadrant of the intersection of the Pennsylvania Turnpike (I-276) and the Delaware Expressway (I-95). Access to the facility is through a single gate to the south off of Ford Road, a two-lane street that runs diagonally, southwest to northeast, and passes over the Delaware Expressway.

#### **4.11.1.2 Public Transportation**

There is no direct transit service to the Bristol AFRC. The Southeast Pennsylvania Transit Authority operates line number 129, Monday through Fridays, 6:00 AM to 10:00 PM, that makes a stop at the intersection of Ford and Wharton Roads every hour. This intersection is approximately 0.5 mile northeast of the facility.

#### **4.11.2 CONSEQUENCES**

Potential impacts to transportation are considered significant if the Proposed Action would:

- Disrupt or improve current transportation patterns and systems;
- Deteriorate or improve existing levels of service;
- Change existing levels of safety; and
- Disrupt and deteriorate current installation activities.

##### **4.11.2.1 Alternative 1 – Preferred Alternative**

Overall, potential transportation impacts from the Preferred Alternative would not be significant with little to no long-term impacts.

During the demolition and construction phases of the Proposed Action, a temporary increase in vehicular traffic into and out of the Bristol AFRC site is expected. Three buildings (two brick masonry and one steel), totaling 44,098 square feet, would be demolished and the debris hauled away using heavy trucks. In addition, three underground concrete missile storage silos would be closed in place, which could also entail movement of heavy equipment on surrounding roads.

Under the Proposed Action, the number of vehicles using Ford Road to access the AFRC on weekends is expected to increase. As indicated previously, the existing Bristol AFRC serves approximately 270 personnel. Under the Proposed Action, up to 370 additional Army Reserve and Marine Corps Reserve personnel would be assigned to the facility, more than doubling the number of personnel currently using the facility. The maximum expected use of the new facility would be 351 members per weekend, and there would be parking for 281 privately-owned vehicles (taking into account those who would carpool or use public transportation). The increased traffic is not expected to cause a significant disruption to current transportation patterns near the Bristol AFRC; however, the entry road on the site may need to be widened.

##### **4.11.2.2 No Action Alternative**

Under the No Action Alternative, there would be no changes to the existing transportation infrastructure at the site or in surrounding areas.

#### **4.12 Utilities**

##### **4.12.1 AFFECTED ENVIRONMENT**

This section describes existing utilities at the Bristol AFRC. In general, the utility systems are classified as distribution and collection systems including water, wastewater system, storm water system, and energy sources. Communication systems and solid waste disposal are also discussed in this section. The ROI for utilities is defined as utility services at Bristol AFRC and the

associated public utility service providers. Local municipal and commercial utility entities provide all major utilities (water, sewer, natural gas, electricity, and communications) at Bristol AFRC.

#### **4.12.1.1 Potable Water Supply**

Potable water can be defined as water fit for drinking, being free from contamination and not containing a sufficient quantity of saline material to be regarded as a mineral water. There are no drinking water or irrigation supply wells located on the property. All water is provided by the Bristol Township Water Department. According to the 99<sup>th</sup> RRC, the average monthly usage for fiscal year (FY) 2007 was 1,500 gallons. According to the engineering consultant for the water department, this is not a large usage and does not impact system capacity.

#### **4.12.1.2 Wastewater System**

Wastewater is collected through the site sewer system. Disposal is provided by the Bristol Township Sewer Department. According to the 99<sup>th</sup> RRC, the average monthly disposal for FY 2007 was 2,200 gallons. According to the engineering consultant for the sewer department, this is not a significantly large quantity and does not impact system capacity.

#### **4.12.1.3 Storm Water System**

The 99<sup>th</sup> RRC has no record of a storm water discharge permit for the AFRC.

#### **4.12.1.4 Energy Sources**

Both electricity and natural gas are available on the site. Electricity and natural gas are provided by PECO Energy of Philadelphia, Pennsylvania. According to the 99<sup>th</sup> RRC, the FY 2007 average monthly usage for electricity was 23,465 KWH and for natural gas was 430 MCF.

#### **4.12.1.5 Communication**

The AFRC utilizes an Alcotel system for its communications services. Alcotel is associated with Avaya. The system is maintained by Cyber, Inc., Peachtree City, Georgia under contract with the U.S. Army Reserve Command in Atlanta.

#### **4.12.1.6 Solid Waste**

Solid waste disposal is accomplished by contract with 20<sup>th</sup> Century Refuse of Philadelphia, Pennsylvania. Waste materials are placed in two 6-yard containers and picked up once per week.

### **4.12.2 CONSEQUENCES**

Effects on infrastructure are considered in terms of increases in demands on systems and the ability of existing systems to meet those demands. Potential effects to the environment could occur if the existing systems are insufficient to handle the increased demands requiring construction and operation of a new system that may affect the environment. Utility demands include both construction and operations usage. Utility demands during the operations of the Proposed Action are based on the additional facility square footage and personnel requirements.

#### **4.12.2.1 Alternative 1 – Preferred Alternative**

Overall, potential impacts to utilities from the Preferred Alternative would not be significant.

The Preferred Alternative entails the demolition of structures on the site, land clearing, construction of a new training center, storage building and maintenance shop, paving, fencing, general site improvements, and extension of utilities to serve the project. The size of the new AFRC would increase from 44,098 square feet to 106,395 square feet, or about 2.4 times. Personnel would increase from the existing 270 to 640, or by 2.4 times. Accordingly, it would be expected that utility usage during operations of the new AFRC would increase by approximately 2.4 times. This increase in utility usage and waste disposal is not expected to be significant. Under the Preferred Alternative, irretrievable commitments of resources would occur from the consumptive use of electrical energy and fuel during the demolition, construction, and operations phases.

During demolition of existing buildings, the 99<sup>th</sup> RRC would address disposal of asbestos-containing material, as well as hazardous substances, in accordance with federal and PADEP regulations, as discussed in Section 4.13.2.1.

#### **4.12.2.2 No Action Alternative**

Under the No Action Alternative, no changes to utilities would occur at the site.

### **4.13 Hazardous and Toxic Substances**

#### **4.13.1 AFFECTED ENVIRONMENT**

This section describes the existing conditions of hazardous and toxic substances at the Bristol AFRC. Management of hazardous materials and hazardous wastes are discussed as well as site clean-up. The ROI is defined as the Bristol AFRC.

##### **4.13.1.1 Hazardous Materials**

For purposes of this EA, hazardous materials are those regulated under federal, state, DoD, and Army regulations. Hazardous materials are required to be handled, managed, treated, or stored properly by trained personnel under the following regulations: Occupational Safety and Health Administration (OSHA) Hazardous Communication, 29 CFR 1900.1200 and 29 CFR 1926.59; and Department of Transportation Hazardous Materials, 49 CFR 172.101; EPA, 40 CFR 260 et seq. (OSHA 2006).

Quantities of hazardous materials appropriate for facility and vehicle maintenance have been stored and used at the property. The 99<sup>th</sup> RRC has developed the following plans and procedures to manage the use of hazardous materials at the Bristol AFRC:

- Asbestos Management Plan, July 2007,
- PCB Management Plan, January 2003,
- Spill Contingency Plan, June 2002,
- Spill Prevention and Response Standard Operating Procedure, undated, and
- Waste Guidelines, undated.

#### **4.13.1.2 Hazardous Waste Disposal**

The current Bristol AFRC generates small amounts of hazardous waste and is a conditionally exempt small quantity generator, with EPA Identification Number PA9210422870. The majority of AFRC hazardous waste is generated by vehicle maintenance activities (approximately one 5-gallon container every month). Bristol AFRC transports such waste to the Area Maintenance Support Activity (AMSA) facility in Willow Grove, Pennsylvania, approximately 20 miles away, which serves as a central collection point for small quantity generators. Hazardous waste is collected from the AMSA facility by Hazleton Oil and Environmental, Inc., and taken to an approved disposal facility in accordance with applicable laws and regulations.

#### **4.13.1.3 Environmental Baseline**

The property was originally used as a Nike missile site launch area by the Philadelphia Defense Area in the mid to late 1950s until about 1964, when the property was transferred to the U.S. Army Reserve Command, and some residual effects remain from such use. An Asbestos Survey and Other Environmental Findings Report of the Bristol AFRC was prepared by Weston Solutions in October 2006, and an Environmental Baseline Survey by the U.S. Army Center for Health Promotion and Preventative Medicine (CHPPM) is currently in progress. The purpose of the reports was to obtain a baseline of the environmental condition of the property for future real estate actions. However, no real estate actions are part of the Proposed Action. Results of the findings are summarized below:

- Asbestos – Asbestos was detected in two vinyl floor and two associated mastic samples and in one seam mastic sample associated with an HVAC system in the current AFRC (Weston 2006).
- Lead-based paint – Lead-based paint was detected in two locations at the AFRC and in two locations at the OMS. Paint is in good condition, with no peeling or flaking observed during the site visit (Weston 2006).
- PCBs – There is one pad-mounted transformer on the property that appears to have not been tested for PCBs. PCBs may also be present in hydraulic lines in the missile silos (CHPPM 2007).
- Missile silos – Three underground missile silos on the property are filled with demolition debris (including sand, gravel, asphalt, wood, floor tiles, cement, and concrete) and water. These silos have been paved over and the paved area is currently used for military vehicle parking; thus, these remaining features are neither visible nor accessible, although the presence of these underground magazines has been verified by recent site reconnaissance (Weston 2006).
- Groundwater – Four monitoring wells are located on the existing Bristol AFRC site to monitor for potential contamination emanating from the underground missile storage vaults remaining from the property's former use as a Nike missile launch area. Two wells appear to be upgradient from the silos, one well appears to be cross-gradient from the silos, and one well appears to be downgradient from the silos. Groundwater samples taken from these wells have only had sporadic elevated detections of aluminum, iron, and manganese and no detections of semi-volatile organic compounds (SVOCs) or volatile organic compounds (VOCs).

- Surface drainage ditches – Liquid wastes from the operation of the launch facility were collected in sumps, floor drains, and temporary holding tanks. No anecdotal or historical documentation of disposal practices could be obtained for this site (CHPPM 2007). The Environmental Baseline Survey states that these wastes historically were either transferred offsite for disposal, allowed to infiltrate into the ground, or discharged to surface drainage ditches. There is no physical evidence remaining, however, such as stained soil or stressed or dead vegetation, that indicates an impact to the surface drainage ditches from waste discharge.

Three sediment samples were collected in 1992 from surface drainage ditches near the northwest corner of the property. Additionally, a surface soil sample was collected to characterize surface soil near the washrack adjacent to the OMS. Prior to 1980, the washrack and oil/water separator located adjacent to the OMS drained directly to a drainage ditch located on the property. In 1980, the oil/water separator near the OMS was connected to the sanitary sewer, and use of the washrack adjacent to the OMS was discontinued in 1999. One surface soil sample was collected adjacent to the washrack in 2001 and analyzed for VOCs, SVOCs, pesticides, metals, nitrates/nitrites, and PCBs. Concentrations of all analytes except vanadium were below PADEP regulatory standards. Vanadium concentrations were believed to be naturally occurring (CH2MHill 2001).

- Outdoor firing range – An outdoor firing range was formerly located in the northwest corner of the property. Use of the range was initiated *circa* 1977 and discontinued in 1991. The range was used for small arms firing, primarily handguns. The dimensions of the former firing range are approximately 150 feet by 100 feet (CHPPM 2007). The area is currently covered with dense thicket and may require clearing prior to conducting additional investigation. Preliminary environmental sampling was conducted in 1992. Eleven soil samples were collected from the impact berm and analyzed for lead, two samples collected from the berm were analyzed for copper and zinc, and three sediment samples were collected from a nearby drainage ditch and analyzed for lead, copper, and zinc. Four samples exceeded the residential standard for lead (450 milligrams per kilogram). All samples were below regulatory standards for copper and zinc. Correspondence between the 99<sup>th</sup> RRC and the PADEP indicated that future use of the property should be considered in selection of a standard when conducting confirmatory sampling in this area.
- UST – Engineering drawings indicate UST #4 was removed in 1972; no further information concerning this tank could be obtained from the 99<sup>th</sup> RRC or PADEP files. Thus, there is the potential for petroleum product remaining in the soil (CHPPM 2007).

#### **4.13.2 CONSEQUENCES**

Potential impacts to hazardous materials and hazardous waste management are considered significant if the Proposed Action would:

- Result in noncompliance with applicable federal and state regulations; or
- Increase the amounts of generated or procured hazardous materials beyond current permitted capacities or management capabilities.

#### **4.13.2.1 Alternative 1 – Preferred Alternative**

Overall, potential impacts to hazardous and toxic substances management from the Preferred Alternative would not be significant. The Preferred Alternative would result in beneficial impacts to hazardous and toxic substances management and the facility's environmental condition.

The Proposed Action would include building demolition and land clearing of the current Bristol AFRC. These actions would be accomplished in accordance with all appropriate environmental laws, rules, and regulations of the DoD, EPA, and the Commonwealth of Pennsylvania. Prior to or concurrent with site redevelopment, the 99<sup>th</sup> RRC would address the environmental findings summarized above, resulting in an improved environmental condition. For example, asbestos-containing materials in the buildings to be demolished would be removed prior to demolition and disposed of in accordance with the applicable federal and PADEP regulations. Implementation of the Proposed Action would have a beneficial impact on the environmental condition of the property. The expected consequences of the Proposed Action on each environmental finding are summarized below.

- Asbestos – The Proposed Action calls for demolition of the current AFRC and OMS. Asbestos-containing materials have been identified in both buildings. Asbestos-containing materials in the buildings to be demolished would require abatement prior to demolition by trained and qualified asbestos personnel. Disposal would be in accordance with the 99<sup>th</sup> RRC's Asbestos Management Plan and applicable federal and PADEP regulations. Impacts from asbestos-containing material would not be significant.
- Lead-based paint – The Proposed Action calls for demolition of the current AFRC and OMS. Lead-based paint has been identified in both buildings. Lead is regulated in the workplace for exposure to workers although most documented health effects relate to pregnant women and children. Lead-based paint would be abated by certified personnel. Disposal would be in accordance with applicable federal and PADEP regulations. Impacts from lead-based paint would not be significant.
- PCBs – The Proposed Action would not impact the one transformer or hydraulic lines in the missile silos.
- Missile silos – The silos have been paved over and are currently inaccessible because they are filled with demolition debris. Thus, impacts from the Proposed Action in relation to the missile silos are not expected.
- Groundwater – Data do not indicate a groundwater plume. Construction plans for the new AFRC and OMS do not include basements. Thus, impacts from the shallow groundwater as a result of the Proposed Action are not expected.
- Surface drainage ditches – Most drainage ditches around the perimeter of the site would not be affected by construction of the Proposed Action. Some drainage ditches would likely be filled in and constructed upon. Such actions are not expected to mobilize any isolated, residual contamination that might exist. Impacts would not be significant.
- Outdoor firing range – The Proposed Action calls for construction of heated storage and security fencing at the site of the former outdoor firing range. Construction and

vegetation clearing could mobilize dust containing lead in concentrations that could be a concern. The CHPPM will conduct soil sampling of this area prior to construction. Based on the results of the sampling, the appropriate action will be taken to protect human health and the environment.

- UST – The former UST #4 was located at the site of the current AFRC. The Proposed Action calls for demolition of this building and construction of the new OMS at this site. It is likely that any residual petroleum-contaminated soil that remained after this UST was removed was excavated during construction of the current AFRC. No impacts from the former UST #4 are expected.

Operations at the new facility would not be significantly different from those currently in place and are not expected to have any adverse impacts on hazardous and toxic materials management; however, an increase in volume of hazardous waste is expected. Even so, only small quantities of hazardous wastes would be generated primarily from vehicle maintenance activities, such as parts degreasing. Disposal would be by commercial vendor or via the AMSA collection point, from where the waste would be taken to an approved disposal facility in accordance with applicable laws and regulations. These activities are not expected to have any adverse impacts from hazardous and toxic materials handling.

#### **4.13.2.2 No Action Alternative**

Under the No Action Alternative, no changes to hazardous and toxic substances management would occur.

### **4.14 Cumulative Effects Summary**

Cumulative effects are those environmental impacts that result from the incremental effects of other past, present, or reasonably foreseeable future actions when combined with the Proposed Action. CEQ regulations stipulate that the cumulative effects analysis within an EA 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 actions” (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, and local) or individuals.

The scope of the cumulative effect analysis involves evaluating impacts to environmental resources by geographic extent of the effects and the time frame in which the effects are expected to occur. Past, present, and reasonably foreseeable actions are identified first, followed by the cumulative effects that could result from these actions when combined with the Proposed Action.

#### **4.14.1 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS**

The geographic area analyzed for cumulative impacts includes both the existing Bristol AFRC property and approximately 1 mile surrounding the site. No past, present, or reasonably foreseeable future projects were identified on the existing Bristol AFRC property other than the Proposed Action. Two reasonably foreseeable actions were identified in the 1-mile area

surrounding the site, and no applicable past or present projects were identified. The identified projects are summarized here:

- **Pennsylvania Turnpike / Interstate Highway 95 Interchange Project.** This project will connect the Pennsylvania Turnpike and Interstate Highway 95, thus making Interstate Highway 95 continuous throughout the Mid-Atlantic Region. Most construction will take place north of the Turnpike and east of Interstate Highway 95, approximately 1 mile north of the Bristol property. One part of the project entails the replacement or modification of six overpasses to accommodate lane-widening of the Turnpike and the Interstate. One of these overpasses is at Ford Road, approximately 0.25 mile east of the Bristol AFRC entrance gate. Construction is scheduled to begin during the first half of 2008 and continue through 2014. A schedule showing when certain phases would be complete is currently unavailable.
- **Hotel on New Rodgers Road.** The Linden Real Estate Corporation has submitted an application to construct a hotel on the site of a vacant building at 3113 New Rodgers Road, approximately 0.7 mile northeast of the existing Bristol AFRC. No information regarding the size of the project is available, but construction should begin by early 2008 (Costello 2007).

#### **4.14.2 CUMULATIVE EFFECTS**

Environmental effects for all resources potentially affected by the Proposed Action when combined with the identified reasonably foreseeable projects are discussed below.

##### **4.14.2.1 Land Use**

The Proposed Action would not cause any incremental impacts to land use when combined with the future projects in the vicinity of the Bristol AFRC property, because these projects would occur on land geographically separated from land under consideration for the Proposed Action construction and would have no bearing on current land use classifications.

##### **4.14.2.2 Aesthetics and Visual Resources**

Construction of the AFRC and OMS under the Proposed Action would cause incremental impacts to aesthetics and visual resources when combined with the future replacement or modification of the Ford Road overpass over Interstate Highway 95 if construction occurred simultaneously. Short-term impacts of each of these projects would be additive if the construction and renovation projects overlapped temporally because two major construction projects would be taking place almost adjacent to each other. These impacts would be temporary and would not be significant.

##### **4.14.2.3 Air Quality**

If the construction periods overlapped, the Proposed Action would cause short-term incremental impacts to air quality when combined with the construction, demolition, or renovation aspects of the future projects listed in Section 4.14.1. Construction, renovation, or demolition may cause increased short-term external combustion in air emissions from heavy equipment usage. These would be temporary impacts and would not be significant.

#### **4.14.2.4 Noise**

The Proposed Action would cause short-term incremental impacts to noise when combined with the construction, demolition, or renovation aspects of the future projects listed in Section 4.14.1. Construction, renovation, or demolition may cause increased short-term noise; however, the hotel project and most of the Pennsylvania Turnpike project would not occur within the auditory range of the Proposed Action location. These impacts would be temporary, and cumulative effects to noise would not be significant.

#### **4.14.2.5 Geology and Soils**

The Proposed Action would cause long-term incremental impacts to geology and soils when combined with the future projects listed in Section 4.14.1 through the addition of impervious surfaces to the general vicinity of the Bristol AFRC. Incremental impacts would result in the reduction of infiltration of precipitation into the soil; however, the cumulative effects to geology and soils would not be significant.

#### **4.14.2.6 Water Resources**

The Proposed Action would cause long-term incremental impacts to water resources when combined with the future projects listed in Section 4.14.1 through the addition of impervious surfaces to the general vicinity of the Bristol AFRC. Incremental impacts would result in the reduction of groundwater recharge via soil infiltration; however the cumulative effect would not be significant.

#### **4.14.2.7 Biological Resources**

The Proposed Action would cause long-term incremental impacts to biological resources when combined with the future projects listed in Section 4.14.1 by removing vegetation and causing the direct loss of plant and wildlife habitats in the general vicinity of the Bristol AFRC. However, these projects together would not substantially diminish the quality or quantity of habitat for plants or animals, nor would they substantially diminish regional or local populations of plant or animal species. Cumulative effects to biological resources would therefore not be significant.

#### **4.14.2.8 Cultural Resources**

The Proposed Action may cause long-term incremental impacts to cultural resources when combined with the future projects listed in Section 4.14.1. Ground disturbance due to the Proposed Action and the future projects would involve the potential for discovery of or impact to previously unrecorded cultural artifacts. Strict adherence to a standard SOP regarding the inadvertent discovery of archaeological resources would minimize the possibility of adverse impacts. Cumulative effects to cultural resources would therefore not be significant.

#### **4.14.2.9 Socioeconomics**

The Proposed Action may cause short-term incremental impacts to socioeconomics when combined with the future projects listed in Section 4.14.1. Beneficial short-term impacts would result from construction, renovation, and demolition activities from an increase in employment and economic development.

Under the Proposed Action, there would be no substantial changes in personnel or to socioeconomic factors. Therefore, the Proposed Action when combined with projects listed in Section 4.14.1 would not result in long-term cumulative impacts to socioeconomics.

#### **4.14.2.10 Transportation**

The Proposed Action may cause short-term incremental impacts to transportation when combined with the future projects listed in Section 4.14.1. Incremental impacts would result from construction, renovation, and demolition activities from short-term increases in vehicular traffic. The increase in vehicular traffic would be caused by an increase in workers coming onto the installation in the morning and leaving in the evening. Construction traffic would be routed through the existing gate during normal business hours.

Renovations to the Ford Road overpass could necessitate routing traffic to and from the industrial park, including the Bristol AFRC site, through residential neighborhoods to the west. This would include not only truck and passenger vehicle traffic but could also include construction traffic heading to or from the Bristol AFRC site, depending on the construction timing of the two projects. However, this would only be a temporary impact.

The Proposed Action would not likely cause long-term incremental impacts to transportation when combined with the future projects listed in Section 4.14.1, because the additional traffic resulting from the Proposed Action would occur on the weekends, while traffic from the other future projects would be spread throughout the week.

Overall, cumulative impacts to transportation would not be significant.

#### **4.14.2.11 Utilities**

The Proposed Action may cause short-term incremental impacts to utilities when combined with the future projects listed in Section 4.14.1. Incremental impacts would result from construction, renovation, and demolition solid waste. Solid waste produced by these projects would be shipped to a municipal landfill and would not be expected to cause adverse impacts to the landfill.

Overall, cumulative impacts to utilities are not considered significant.

#### **4.14.2.12 Hazardous and Toxic Substances**

The Proposed Action may cause short-term incremental impacts from the use of hazardous and toxic substances during construction and renovation when combined with the future projects listed in Section 4.14.1. Incremental impacts would also result from increased demolition waste that may have toxic characteristics.

The Proposed Action may also cause long-term incremental impacts from increased hazardous and toxic waste when combined with the operational aspects of the hotel project listed in Section 4.14.1. For example, the Bristol AFRC and the hotel may both contribute hazardous waste such as cleaners or solvents to the hazardous waste stream. However, overall cumulative impacts from hazardous and toxic substances would not be significant.

#### **4.15 Mitigation Summary**

Mitigation measures are measures that are integral to an alternative to reduce impacts. No mitigation measures are required for the Preferred Alternative discussed in this EA because resulting impacts are not significant.

## **5.0 FINDINGS AND CONCLUSIONS**

Direct, indirect, and cumulative impacts of Alternative 1 and the No Action Alternative have been considered. Alternative 1 is the 99<sup>th</sup> RRC's Preferred Alternative because it best allows the Army to efficiently provide safe training facilities for its reservists and those Marine reservists that would use the facilities. No significant adverse impacts were identified. In the case of aesthetics and visual resources and socioeconomics, some minor beneficial impacts were identified under Alternative 1.

Therefore, the issuance of a FNSI is warranted, and preparation of an environmental impact statement is not required. Implementation of the No Action Alternative is not feasible because the BRAC actions are required by law to be implemented.

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## **7.0 DISTRIBUTION LIST**

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## **9.0 PERSONS CONSULTED**

Colleen Costello  
Administrative Assistant  
Department of Building, Planning, and Development  
Bristol Township  
2501 Bath Road  
Bristol, Pennsylvania 19007

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*Environmental Assessment for the Construction of an  
Armed Forces Reserve Center and Implementation of BRAC05  
Realignment Actions at Bristol, Pennsylvania*

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*APPENDIX A*

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**CONSULTATION AND COORDINATION**

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## **APPENDIX A. CONSULTATION AND COORDINATION**

This appendix contains the following consultation and coordination letters:

- Letter sent to the State Historic Preservation Office dated January 24, 2008
- Letter received from the State Historic Preservation Office dated February 21, 2008
- Letter sent to the U.S. Fish and Wildlife Service dated January 24, 2008
- Letter received from the U.S. Fish and Wildlife Service dated March 10, 2008



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, 99TH REGIONAL READINESS COMMAND  
99 SOLDIERS LANE  
CORAOPOLIS, PENNSYLVANIA 15108-2550

January 24, 2008



Directorate of Public Works

Ms. Barbara Franco  
State Historic Preservation Officer  
Pennsylvania Historical and Museum Commission  
300 North Street  
Harrisburg, PA 17120

Dear Ms. Franco:

The intent of this memorandum is to inform you that the U.S. Army Reserve (USAR), 99th Regional Readiness Command (RRC) is proposing to construct a new Armed Forces Reserve Center (AFRC) in Bristol Township, Bucks County, Pennsylvania as part of the restructuring of military bases as required by the Defense Base Closure and Realignment Act (BRAC). The USAR is requesting your concurrence with the above action.

**Description of the Undertaking**

The proposed action includes the construction of a new 650-member AFRC, Organizational Maintenance Shop (OMS), and unheated storage building on the site of the existing Bristol facility. The property comprises about 17 acres and is surrounded by warehouses and light manufacturing operations. The existing Bristol AFRC serves approximately 270 personnel and is located at 2501 Ford Road in Bristol Township, Bucks County, Pennsylvania. An additional 380 personnel are being relocated from the Philadelphia Memorial AFRC to Bristol. Enclosure 1 provides greater detail regarding the proposed action, Enclosure 2 shows the location of this undertaking and Enclosure 3 shows the proposed site layout.

In addition to the construction of the new OMS and storage building, a number of ancillary projects will be conducted. These supporting actions would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. Force protection (physical security) measures will be incorporated into the design including maximum standoff distance from roads, parking areas, and vehicle unloading areas. Berms, heavy landscaping and bollards will be used to prevent access when standoff distances cannot be maintained. A 900-square-foot mobile kitchen pad with roadway access would be constructed adjacent to the AFRC.



Image courtesy of U.S. Geological Survey

**Figure 1.** Existing Bristol site.

### **History of Property and Findings**

Development of the site from farmland began in 1955 and the site was used as part of the Nike Missile System (Nike Ajax Site PH-15) until about 1964, when the property was transferred to the U.S. Army Reserve Command and the Nike Missile System was discontinued. Currently, the property is used as a U.S. Army Reserve training facility. PH-15 was divided into two parts, a launch area and an administration/control area. The proposed project is located on the launch area. Ed Thelen's Nike Missile Web Site located at <http://ed-thelen.org/loc-p.html#Pennsylvania> is an excellent resource for information on the Nike system and specifically on PH-15 and formed the basis of the Army's findings regarding the history and integrity of the site. Figure 2 shows the Bristol AFRC site in relation to the PH-15 control area.



Image courtesy of U.S. Geological Survey

**Figure 2.** Existing Bristol site and PH-15 control area.

### **Archaeological Sites**

There are no known archaeological sites located on the Bristol property. The level of disturbance from use of the site as farmland and previous construction activities precludes any further archeological investigation.

### **Buildings/Structures**

The Bristol property was the launch area portion of Nike Ajax site PH-15. The underground concrete storage magazines are the only features remaining on the site from this prior use. These magazines have been paved over and the paved area is currently used for military vehicle parking; thus, these remaining features are neither visible nor accessible, although the presence of these underground magazines has been verified by recent site reconnaissance. The control area portion of Nike site PH-15 is located approximately 0.75 mile north-northeast of the Bristol property and consists of a perimeter fence and foundations of some buildings but no other structures. There are three existing buildings on the Bristol property that would be demolished under the Proposed Action.

Two of the buildings (the existing AFRC, Building 96001, and OMS, Building 96002) are of brick masonry and were constructed in 1974, and the third is a steel storage shed erected in 2005. Attachment 5 contains representative photographs of the Bristol property and existing structures. Neither portion of Nike site PH-15 was documented by the Historic American Engineering Record (HAER); little remains available for documentation at this time. Examination of other comparative Nike Ajax sites at <http://ed-thelen.org/loc-p.html#Pennsylvania> shows PH-15 to be very low in terms of integrity of location, setting and materials.

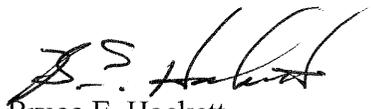
Because of the age of the remaining structures (less than 45 years); lack of site integrity due to demolition, remodeling/rebuilding and changed use; and the availability of other examples of Nike Ajax sites retaining greater site integrity, this site is not eligible for the National Register of Historic Places due to lack of integrity of location, setting and materials.

The properties affected by the Proposed Action are not a part of any historic district, nor is any property or historic district within the APE.

Based on the background study and field assessment, no historic properties are located within the project APE. Therefore, the U.S. Army has determined **no historic properties affected** by the proposed construction of the Bristol RRC as per 36 CFR 800.4(d).

The U.S. Army asks for your concurrence with these findings. If you have questions or require further information, please contact Mr. Jeffrey Hrzic at (412) 604-8441 or via email at [jeff.hrzic1@usar.army.mil](mailto:jeff.hrzic1@usar.army.mil).

Sincerely,



Bruce E. Hackett  
Colonel, US Army Reserves  
Director of Public Works

Enclosures

## ATTACHMENT 1

### **Description of the Proposed Action at the site of the existing Bristol Veterans Memorial Armed Forces Reserve Center**

To support the BRAC recommendations, the Proposed Action includes the closure of the Philadelphia Memorial United States AFRC and OMS in Philadelphia, Pennsylvania, and construction of a new 600-member AFRC, OMS, and unheated storage building on the site of the existing Bristol Veterans Memorial AFRC in Bristol, Pennsylvania (see Attachment 2 and Attachment 3). The new AFRC would provide administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for eight Army Reserve units and three Marine Corps Reserve units. The OMS would provide work bays and maintenance administrative support. The Proposed Action would also provide unit maintenance training, unit storage, and parking space for military and privately-owned vehicles. The new facilities would be located on the existing Bristol Veterans Memorial AFRC footprint resulting in the requirement for demolition of existing facilities and a temporary lease. Units currently stationed at the Bristol facility would be temporarily stationed in Norristown, Pennsylvania, during construction. The Army estimates that construction would begin in May 2008, and would be completed in February 2010.

The proposed AFRC and OMS would consist of permanent construction with heating, ventilation, and air conditioning (HVAC) systems, plumbing, mechanical systems, security systems, and electrical systems. The unheated storage building would also be of permanent construction. The AFRC/OMS/unheated storage complex would consist of the following:

- 94,572 square foot AFRC,
- 8,937 square foot OMS, and
- 2,886 square foot organizational unit storage.

Supporting actions would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. Accessibility for the disabled would be provided. Force protection (physical security) measures will be incorporated into the design including maximum standoff distance from roads, parking areas, and vehicle unloading areas. Berms, heavy landscaping, and bollards will be used to prevent access when standoff distances cannot be maintained. A 900-square-foot mobile kitchen pad with roadway access would be constructed adjacent to the AFRC. Approximately 12 acres of facilities, parking, and roadways would be constructed within the 17-acre area. The Proposed Action also entails the demolition of two existing buildings, which total approximately 39,049 square feet, and dismantling of a steel storage building measuring approximately 5,049 square feet.

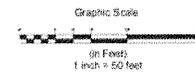
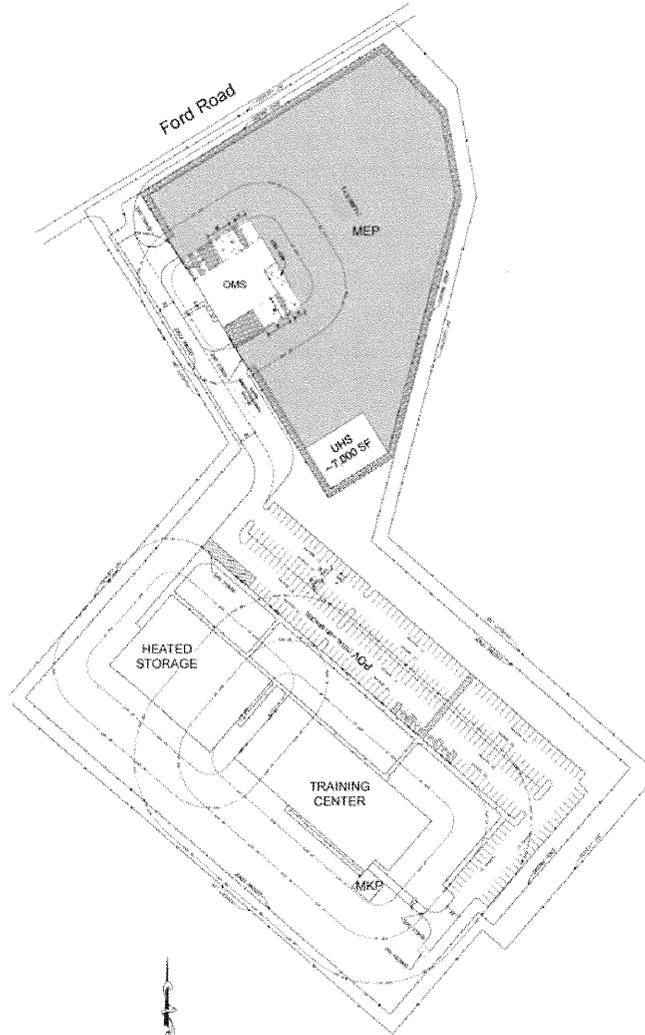
The existing Bristol AFRC serves approximately 270 personnel. Under the Proposed Action, up to 370 additional Army Reserve and Marine Corps Reserve personnel would be supported by the Bristol facility. In addition, the facility would employ approximately 20 permanent full-time personnel with implementation of the BRAC Commission's realignment recommendations. The maximum expected use of the new facility would be 351 members per weekend, and there would be parking for 281 privately-owned vehicles (taking into account those who would carpool or use public transportation).

Activities at the AFRC would be training-related, with no live arms firing. On training weekends, reservists would either commute to the AFRC or stay in local hotels. Activities at the OMS would be limited to operator-level maintenance, such as checking and topping-off fluids. Petroleum, oil, and lubricants use and waste would be minimal, and service beyond this scope would be performed off-site. No vehicle fueling operations would be conducted on the site.



Legend

- Property Line
- MEP Parking
- Concrete Pavement and Concrete Sidewalks
- Stone Mulch
- Proposed Curb
- Security Fence
- Handicap and Parking Striping
- AFRC Armed Forces Reserve Center
- UHS Unheated Storage
- OMS Organizational Maintenance Shop
- MKP Mobile Kitchen Pad
- MEP Military Equipment Parking



Prepared For:  
 U.S. Army Corps of Engineers, Mobile District

Attachment 3  
 Preliminary Bristol AFRC/OMS Site Layout



Attachment 4. Layout of existing Bristol AFRC property.

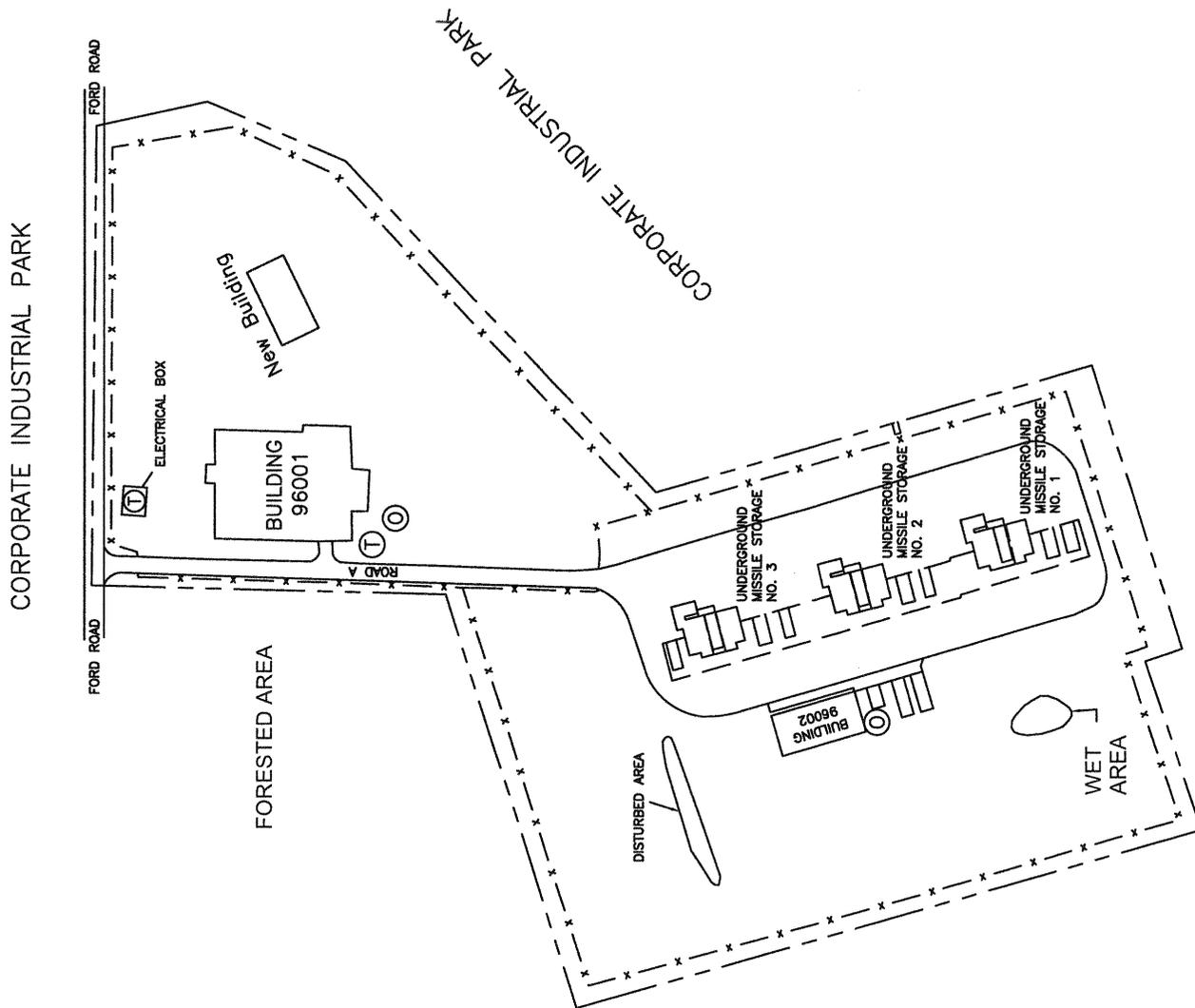


Figure 2 - Facility Layout

BRISTOL USARC (PA010)  
 2501 Ford Road  
 Bristol, PA 19007

Legend:

- Ⓣ Transformers Location
- Ⓜ Hazardous Substance Finding
- Ⓞ Oil/Water Separator
- x - x - Fence
- - - - - Property Boundary

**ATTACHMENT 5**  
**Bristol Veterans Memorial AFRC: Representative photos**



**Figure 1.** Building 96001, looking south.



**Figure 2.** Building 96001, looking west.

Bristol Veterans Memorial AFRC: Representative photos



**Figure 3.** Building 96002, looking southwest.



**Figure 4.** Over the retired underground missile storage vaults.

**Bristol Veterans Memorial AFRC: Representative photos**



**Figure 5.** New (2005) storage building, looking northwest.



Commonwealth of Pennsylvania  
Pennsylvania Historical and Museum Commission  
**Bureau for Historic Preservation**  
Commonwealth Keystone Building, 2<sup>nd</sup> Floor  
400 North Street  
Harrisburg, PA 17120-0093  
[www.phmc.state.pa.us](http://www.phmc.state.pa.us)

February 21, 2008

Bruce E. Hackett  
Department of the Army  
Headquarters, 99<sup>th</sup> Regional Readiness Command  
99 Soldiers Lane  
Coraopolis, PA 15108-2550

Re: File No. ER 08-0912-017-A  
DOD: U.S. Army Reserve, 99<sup>th</sup>  
Regional Readiness Command  
Proposed New Armed Forces  
Reserve Center Construction, Bristol  
Twp., Bucks Co.

Dear Mr. Hackett:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

Based on our survey files, which include both archaeological sites and standing structures, there are no National Register eligible or listed historic or archaeological properties in the area of this proposed project. Therefore, your responsibility for consultation with the State Historic Preservation Office for this project is complete. Should you become aware, from any source, that historic or archaeological properties are located at or near the project site, please notify the Bureau for Historic Preservation at (717) 783-8946.

Sincerely,

Douglas C. McLearn, Chief  
Division of Archaeology &  
Protection

DCM/tmw



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, 99TH REGIONAL READINESS COMMAND  
99 SOLDIERS LANE  
CORAOPOLIS, PENNSYLVANIA 15108-2550

January 24, 2008



Directorate of Public Works

Marvin Moriarty  
U.S. Fish and Wildlife Service  
Region 5  
300 Westgate Center Drive  
Hadley, MA 01035-9589

Dear Mr. Moriarty,

The intent of this memorandum is to inform you that the U.S. Army Reserve (USAR), 99th Regional Readiness Command (RRC) is proposing to construct a new Armed Forces Reserve Center (AFRC) in Bristol Township, Bucks County, Pennsylvania as part of the restructuring of military bases as required by the Defense Base Closure and Realignment Act (BRAC).

On September 8, 2005, the Defense Base Realignment and Closure Commission (BRAC Commission) recommended certain realignment actions occur to units supported by the U.S. Army Reserve's 99th Regional Readiness Command (RRC) on the site of the Bristol Veterans Memorial Armed Forces Reserve Center (AFRC) ("Bristol") in Bristol, Pennsylvania. The President approved these recommendations on September 23, 2005, and forwarded them to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended. The Army will provide the necessary facilities to implement the recommendations, and is preparing an environmental assessment (EA) to analyze and document environmental effects.

To support the BRAC recommendations, the Proposed Action includes the construction of a new 600-member AFRC, Organizational Maintenance Shop (OMS), and unheated storage building on the site of the existing Bristol facility. The existing Bristol AFRC (Figure 1) serves approximately 270 personnel, and under the Proposed Action up to 370 additional Army Reserve and Marine Corps Reserve personnel would be supported by the proposed Bristol facility. Maximum expected use of the proposed facility would be 351 members per weekend. In addition, the facility would employ approximately 20 permanent full-time personnel with implementation of the BRAC Commission's realignment recommendations. The new facilities would be located on the existing Bristol Veterans Memorial AFRC footprint resulting in the requirement for demolition of existing facilities. Units currently stationed at the Bristol facility would be temporarily stationed in Norristown, Pennsylvania, during construction. Further details of the Proposed Action may be found in Attachment 1, the location of the proposed undertaking is shown in Attachment 2, Attachment 3 shows the proposed site layout, and Attachment 4 shows the existing site layout.



Image courtesy of U.S. Geological Survey

**Figure 1.** Existing Bristol site.

**Summary of Potential Effects on Protected Species and Habitats**

*Protected Species:* The 99<sup>th</sup> RRC is not aware of any resident protected species at the Bristol site. No impacts to any Federal or State protected species are expected to occur as a result of the Proposed Action.

*Habitat:* The AFRC and OMS would be built on land that has already been developed, so there would not be any loss of native vegetation. Currently, approximately 50% (7.75 acres) of the 15.5-acre parcel is pervious and landscaped with turfgrass and trees; the remainder of the property is covered with parking areas, sidewalks, and buildings. Attachment 5 contains representative photographs of the Bristol property and existing structures. The AFRC and OMS will be built on the existing footprint of the current buildings and parking lots after both are demolished, and the site will be used for the same type of activities as in the past. Our initial assessment indicates these facilities would result in the direct long-term loss of approximately 2 additional acres of very low productivity habitat for ground-dwelling or nesting species and that post-construction impacts to wildlife from operation of the AFRC and OMS would not be significant. Species currently using the Bristol property are accustomed to humans and their activity and would return to the site once construction activity and noise had abated.

*Wetlands:* No formal delineation of wetlands has been performed on the Bristol site, although no jurisdictional wetlands on the property are recorded in the National Wetlands Inventory (USDI-USFWS 1995). A small (roughly 1,430-square foot), isolated wet area with apparent emergent vegetation occurs on the southern portion of the site south of the existing OMS. Efforts would be made to avoid this area during design layout; however, if it is determined that the design would impact the area then a wetland determination/delineation would be conducted prior to any construction and applicable permits under Section 404 of the Clean Water Act would be obtained.

You will be provided with a copy of the next version of the environmental assessment when it is complete; however, we would appreciate any initial input you may have on the Proposed Action. The Army does not anticipate any impacts to any Federal or State protected species as a result of the proposed action. If you have any questions, please contact Mr. Jeffrey Hrzic at (412) 604-8441 or via email at [jeff.hrzic1@usar.army.mil](mailto:jeff.hrzic1@usar.army.mil).

Sincerely,



Bruce E. Hackett  
Colonel, US Army Reserve  
Director of Public Works

Enclosure

## ATTACHMENT 1

### Description of the Proposed Action at the site of the existing Bristol Veterans Memorial Armed Forces Reserve Center

To support the BRAC recommendations, the Proposed Action includes the closure of the Philadelphia Memorial United States AFRC and OMS in Philadelphia, Pennsylvania, and construction of a new 600-member AFRC, OMS, and unheated storage building on the site of the existing Bristol Veterans Memorial AFRC at 2501 Ford Road in Bristol Township, Bucks County, Pennsylvania (see Attachment 2 and Attachment 3). The new AFRC would provide administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for eight Army Reserve units and three Marine Corps Reserve units. The OMS would provide work bays and maintenance administrative support. The Proposed Action would also provide unit maintenance training, unit storage, and parking space for military and privately-owned vehicles. The new facilities would be located on the existing Bristol Veterans Memorial AFRC footprint resulting in the requirement for demolition of existing facilities and a temporary lease. Units currently stationed at the Bristol facility would be temporarily stationed in Norristown, Pennsylvania, during construction. The Army estimates that construction would begin in May 2008, and would be completed in February 2010.

The proposed AFRC and OMS would consist of permanent construction with heating, ventilation, and air conditioning (HVAC) systems, plumbing, mechanical systems, security systems, and electrical systems. The unheated storage building would also be of permanent construction.

The AFRC/OMS/unheated storage complex would consist of the following:

- 94,572 square foot AFRC
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- 2,886 square foot organizational unit storage

Supporting actions would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. Accessibility for the disabled would be provided. Force protection (physical security) measures will be incorporated into the design including maximum standoff distance from roads, parking areas, and vehicle unloading areas. Berms, heavy landscaping, and bollards will be used to prevent access when standoff distances cannot be maintained. A 900-square-foot mobile kitchen pad with roadway access would be constructed adjacent to the AFRC. Approximately 12 acres of facilities, parking, and roadways would be constructed within the 17-acre area. The Proposed Action also entails the demolition of two existing buildings, which total approximately 39,049 square feet and dismantling of a steel storage building measuring approximately 5,049 square feet.

The existing Bristol AFRC serves approximately 270 personnel. Under the Proposed Action, up to 370 additional Army Reserve and Marine Corps Reserve personnel would be supported by the Bristol facility. In addition, the facility would employ approximately 20 permanent full-time personnel with implementation of the BRAC Commission's realignment recommendations. The maximum expected use of the new facility would be 351 members per weekend, and there would be parking for 281 privately-owned vehicles (taking into account those who would carpool or use public transportation).

Activities at the AFRC would be training-related, with no live arms firing. On training weekends, reservists would either commute to the AFRC or stay in local hotels. Activities at the OMS would be limited to operator-level maintenance, such as checking and topping-off fluids. Petroleum, oil, and lubricants use and waste would be minimal, and service beyond this scope would be performed off-site. No vehicle fueling operations would be conducted on the site.

### **PREFERRED ALTERNATIVE**

Due to the size and configuration of the Bristol site, Anti-terrorism/Force Protection (AT/FP) guidance dictates the preferred general facility layout. To achieve the appropriate AT/FP setbacks, the AFRC would be built on the larger, southern portion of the site, and the OMS and military equipment parking would be placed in the northern or front section along Ford Road (Attachment 3). With the expected increase in vehicular traffic, the entry road on the site may need to be widened. Based on the results of screening for safety, geographic, existing facility and mission, and operational constraints, this is the Preferred Alternative.

### **OTHER ALTERNATIVES CONSIDERED**

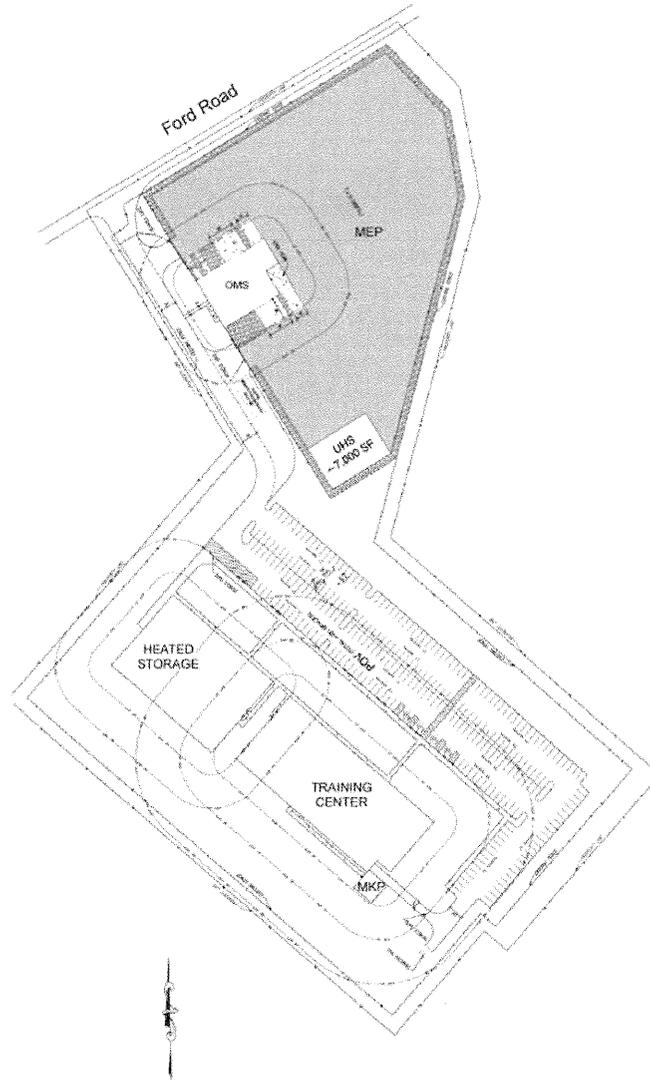
Four alternative actions were considered and analyzed with the screening criteria described above. These alternatives included alteration or addition to the Philadelphia Memorial AFRC, addition or alteration to the Bristol AFRC, lease or contract of other facilities, or use of other Department of Defense facilities. Modification of the existing AFRCs in Philadelphia or Bristol would require numerous upgrades and changes to the buildings' interior layouts to meet current unit organization and mission requirements, and the non-functional layout of the buildings would perpetuate organizational inefficiencies. No other appropriate facilities exist in the area that are capable of meeting the BRAC requirements. Therefore, none of these alternatives is feasible, and they are not carried forward for analysis in the EA.

Under another alternative, the No Action Alternative, the proposed facilities would not be constructed or renovated to accommodate the BRAC actions and the relocation of Army Reserve and Marine Corps Reserve units would not be implemented. Council on Environmental Quality regulations require that the No Action alternative be carried forward to identify the existing baseline conditions against which potential impacts are evaluated. However, because these realignment actions are directed by the BRAC Commission, the No Action Alternative is not feasible.



Legend

- Property Line
- MEP Parking
- Concrete Pavement and Concrete Sidewalks
- Stone Mulch
- Proposed Curb
- Security Fence
- Handicap and Parking Striping
  
- AFRC Armed Forces Reserve Center
- UHS Unheated Storage
- OMS Organizational Maintenance Shop
- MKP Mobile Kitchen Pad
- MEP Military Equipment Parking



Prepared For:  
U.S. Army Corps of Engineers, Mobile District

Attachment 3  
Preliminary Bristol AFRC/OMS Site Layout



Attachment 4. Layout of existing Bristol AFRC property.

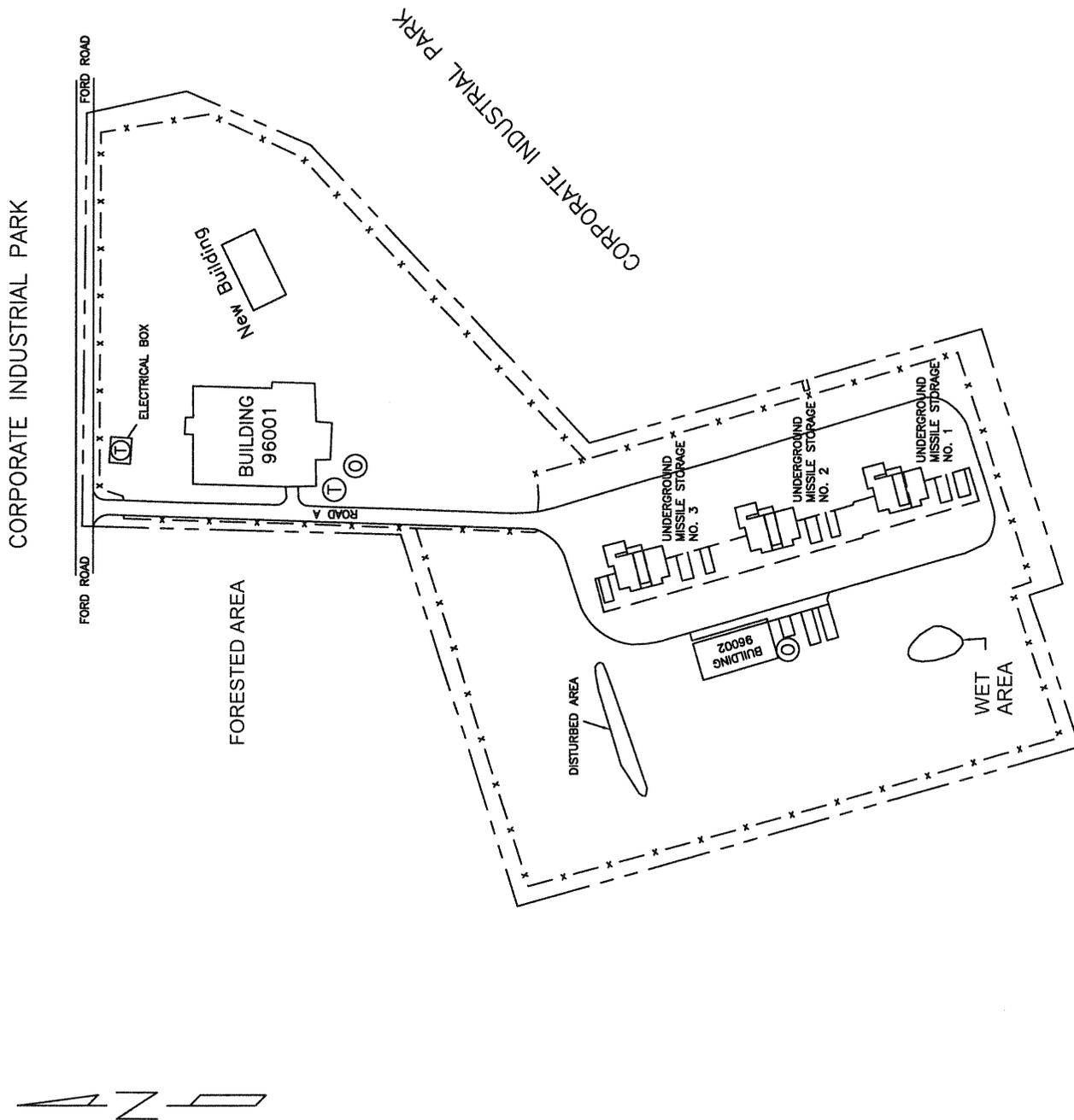


Figure 2 – Facility Layout

BRISTOL USARC (PA010)  
 2501 Ford Road  
 Bristol, PA 19007

Legend:

- Ⓧ — x — Fence
- Ⓧ — — — — Property Boundary
- Ⓧ — — — — Finding
- Ⓧ — — — — Oil/Water Separator

**ATTACHMENT 5**  
**Bristol Veterans Memorial AFRC: Representative photos**



**Figure 1.** Building 96001, looking south.



**Figure 2.** Building 96001, looking west.

Bristol Veterans Memorial AFRC: Representative photos



**Figure 3.** Building 96002, looking southwest.



**Figure 4.** Over the retired underground missile storage vaults.



Figure 5. New (2005) storage building, looking northwest.



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College, Pennsylvania 16801-4850

March 10, 2008

Colonel Bruce E. Hackett  
Headquarters, 99<sup>th</sup> Regional Readiness Command  
99 Soldiers Lane  
Coraopolis, PA 15108-2550

RE: USFWS Project #2008-0932

Dear Colonel Hackett:

This responds to your letter of February 20, 2008, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed Armed Forces Reserve Center located in Bucks County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

Except for occasional transient species, no federally listed or proposed threatened or endangered species under our jurisdiction are known to occur within the project impact area. Therefore, based on currently available information, no biological assessment or further consultation under the Endangered Species Act is required with the Fish and Wildlife Service. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

Please note that a field survey may reveal previously undocumented populations of one or more species of concern within a project area. Refer to the enclosed list of *Federally Listed, Proposed, and Candidate Species in Pennsylvania* to determine which species may be found in your project area if suitable habitat is present. If surveys or further information reveals that a federally listed, proposed, or candidate species exists in your project area, contact the Fish and Wildlife Service immediately to discuss measures to avoid or minimize potential impacts to the species prior to initiating your project.

This determination is valid for one year from the date of this letter. If the proposed project has not been fully implemented prior to this, please access the PNDI Project Planning Environmental Review tool on the Pennsylvania Natural Heritage Program's website ([www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us)) to screen this project for potential impacts to species of special concern, including federally listed and proposed species. If this project is considered a "large project" as defined on the subject website, submit the project directly to our office for review, rather than using the online screening tool.

This response relates only to endangered or threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

*To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.*

Please contact Cindy Tibbott of my staff at 814-234-4090 if you have any questions or require further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "David Densmore", followed by a long horizontal line extending to the right.

David Densmore  
Supervisor

Enclosure

**Federally Listed, Proposed, and Candidate Species in Pennsylvania**  
(revised August 15, 2007)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u> <sup>1</sup>	<u>Distribution (Counties and/or Watersheds)</u>
<b>MAMMALS</b>			
Indiana bat	<i>Myotis sodalis</i>	E	Hibernacula: Armstrong, Beaver, Blair, Centre, Fayette, Huntingdon, Lawrence, Luzerne, Mifflin and Somerset Co. Maternity sites: Bedford, Berks and Blair Counties. Potential winter habitat state-wide in caves or abandoned mines. Potential summer habitat state-wide in forests or wooded areas.
<b>BIRDS</b>			
Piping plover	<i>Charadrius melodus</i>	E	Designated critical habitat on Presque Isle (Erie Co.). Migratory. No nesting in PA since 1950s, but recent colonization attempts at Presque Isle
<b>REPTILES</b>			
Bog turtle	<i>Clemmys (Glyptemys) muhlenbergii</i>	T	Adams, Berks, Bucks, Chester, Cumberland, Delaware, Franklin, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York Co.  <i>Historically found in Crawford, Mercer and Philadelphia Co.</i>
Eastern massasauga rattlesnake	<i>Sistrurus catenatus catenatus</i>	C	Butler, Crawford, Mercer and Venango Co.  <i>Historically found in Allegheny and Lawrence Co.</i>
<b>MUSSELS</b>			
Clubshell	<i>Pleurobema clava</i>	E	French Creek and Allegheny River (and some tributaries) in Armstrong, Clarion, Crawford, Erie, Forest, Mercer, Venango, and Warren Co.; Shenango River (Mercer and Crawford Co.)  <i>Has not been found recently in 13 streams of historical occurrence in Butler, Beaver, Fayette, Greene, Indiana, Lawrence, and Westmoreland Co.</i>
Dwarf wedgemussel	<i>Alasmidonta heterodon</i>	E	Delaware River (Pike and Wayne Co.)  <i>Has not been found recently in streams of historical occurrence in the Delaware River watershed (Bucks, Carbon, Chester, Philadelphia Co.) or Susquehanna River watershed (Lancaster Co.)</i>
Northern riffleshell	<i>Epioblasma torulosa rangiana</i>	E	French Creek and Allegheny River (and some tributaries) in Armstrong, Clarion, Crawford, Erie, Forest, Mercer, Venango, and Warren Co.  <i>Has not been found recently in streams of historical occurrence, including: Shenango River (Lawrence Co.), Conewango Creek (Warren Co.)</i>

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status<sup>1</sup></u>	<u>Distribution (Counties and/or Watersheds)</u>
<b>MUSSELS</b> (continued)			
Rayed bean	<i>Villosa fabalis</i>	C	French Creek and Allegheny River (Armstrong, Clarion, Crawford, Erie, Forest, Mercer, Venango, Warren Co.); Cussewago Creek (Crawford Co.).  <i>Has not been found recently in 5 streams of historical occurrence in Armstrong, Lawrence, Mercer and Warren Co.</i>
Sheepnose	<i>Plethobasus cyphus</i>	C	Allegheny River (Forest and Venango Co.).  <i>Has not been found recently in streams of historical occurrence, including: Allegheny River (Armstrong Co.), Beaver River (Lawrence Co.), Ohio River (Allegheny and Beaver Co.), and Monongahela River (Washington Co.)</i>
<b>FISH</b>			
Shortnose sturgeon <sup>2</sup>	<i>Acipenser brevirostrum</i>	E	Delaware River and other Atlantic coastal waters
<b>PLANTS</b>			
Northeastern bulrush	<i>Scirpus ancistrochaetus</i>	E	Adams, Bedford, Blair, Cambria, Carbon, Centre, Clinton, Columbia, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Lackawanna, Lehigh, Lycoming, Mifflin, Monroe, Perry, Snyder, Tioga, and Union Co.  <i>Historically found in Northampton Co.</i>
Small-whorled pogonia	<i>Isotria medeoloides</i>	T	Centre, Chester and Venango Co.  <i>Historically found in Berks, Greene, Monroe, Montgomery and Philadelphia Co.</i>

<sup>1</sup> E = Endangered; T = Threatened; P = Proposed for listing; C = Candidate

<sup>2</sup> Shortnose sturgeon is under the jurisdiction of the National Marine Fisheries Service

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*Environmental Assessment for the Construction of an  
Armed Forces Reserve Center and Implementation of BRAC05  
Realignment Actions at Bristol, Pennsylvania*

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*APPENDIX B*

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**ECONOMIC IMPACT FORECAST SYSTEM REPORT**

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## APPENDIX B. ECONOMIC IMPACT FORECAST SYSTEM REPORT

This appendix provides the Economic Impact Forecast System Report for the Bristol Proposed Action.

### FORECAST INPUT

Change In Local Expenditures	\$25,000,000
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Militart Living On-post	0

### FORECAST OUTPUT

Employment Multiplier	3.1	
Income Multiplier	3.1	
Sales Volume - Direct	\$25,000,000	
Sales Volume - Induced	\$52,500,000	
Sales Volume - Total	\$77,500,000	0.27%
Income - Direct	\$4,236,336	
Income - Induced)	\$8,896,305	
Income - Total(place of work)	\$13,132,640	0.07%
Employment - Direct	101	
Employment - Induced	213	
Employment - Total	314	0.11%
Local Population	0	
Local Off-base Population	0	0%

### RTV SUMMARY

	Sales Volume	Income	Employment	Population
<b>Positive RTV</b>	12.28 %	11.18 %	3.15 %	2.06 %
<b>Negative RTV</b>	-6.56 %	-4.38 %	-3.83 %	-0.25 %

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