FINDING OF NO SIGNIFICANT IMPACT (FONSI)

ENVIRONMENTAL ASSESSMENT (EA)
FOR GENERAL PLAN UPDATE FOR
JOINT BASE ANDREWS-NAVAL AIR FACILITY, WASHINGTON, MD

PURPOSE

Joint Base Andrews-Naval Air Facility, Washington, Maryland (Andrews) is proposing to update the installation's General Plan. Major changes have occurred at Andrews since the last General Plan was completed in 2003. Some of the key changes to the existing conditions at Andrews since the last General Plan Update are implementation of Base Realignment and Closure (BRAC) initiatives, privatization of Military Family Housing (MFH), privatization of the water and natural gas systems and other utility systems, construction of the William B. Jones building, and the creation of Joint Base Andrews-Naval Air Facility, Washington, Maryland. The General Plan Update will provide the installations and unit commanders at Andrews a current vision for future development that creates efficiencies in base operations and resolves incompatible land use issues on the installation. The U.S. Air Force, Air Force District Washington (AFDW), and Andrews have prepared this environmental assessment (EA) in accordance with the National Environmental Policy Act (NEPA); the Council of Environmental Quality regulations implementing the NEPA; and Title 32, Code of Federal Regulations, Part 989, as amended, *The Environmental Impact Analysis Process (EIAP)*.

PROPOSED ACTION

The Proposed Action would implement the projects contained within the General Plan Update at Andrews with proposed improvements that would include construction, demolition, renovation, and maintenance activities within the main base, the Brandywine Receiver Station, and the Davidsonville Transmitter Station.

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Summary of Anticipated Environmental Impacts Associated with the Proposed Action

Impacts were assessed for the implementation of the projects within the General Plan Update at the programmatic level. When necessary, detailed, project-specific analysis would be conducted for the conceptual projects described in the General Plan Update as those projects proceed from concepts to design.

Short-term direct minor adverse effects resulting from construction and demolition activities would occur on the noise environment, air quality, safety, geological resources, water resources, biological resources, and hazardous materials and wastes. Adverse effects associated with construction activities would be localized to the immediate area of construction and would subside following the end of construction in each area affected. Short-term indirect minor beneficial effects on socioeconomics would also occur on the local community from construction costs. Long-term direct minor beneficial effects on safety, energy efficiencies, and stormwater and other infrastructure would be expected from the construction of new facilities and demolition of existing facilities on the installation.

Whenever feasible, the projects described in the Proposed Action would avoid construction in wetlands and areas where threatened and endangered species are known to occur. No direct or indirect effects on archaeological resources or traditional cultural properties would be expected, because these areas would be avoided during all construction activities. Additional NEPA analysis will be conducted on individual projects to ensure compliance with Air Force EIAP.

Public Review and Interagency and Intergovernmental Coordination Planning

The Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) process for the Description of Proposed Action Alternatives (DOPAA) was conducted from 29 October to 22 November 2010. The public and agency review of the Draft EA was conducted between 11 February 2011 and 14 March 2011. Copies of these documents were available for review at the Upper Marlboro Branch Library of the Prince George's County Memorial Library System at 14730 Main St. Upper Marlboro, MD 20772 and on the project website at AndrewsGeneralPlanEA.com.

FINDING OF NO SIGNIFICANT IMPACT

I conclude that the environmental effects of the proposed installation development at Andrews are not significant, that preparation of an Environmental Impact Statement is unnecessary, and that a FONSI is appropriate. The preparation of the EA is in accordance with NEPA, Council on Environmental Quality regulations, and 32 Code of Federal Regulations Part 989, as amended, and is herein incorporated by reference.

LEE K. DEPALO, Colonel, USAF
Vice Commander, 11th Wing

15 Apr 11
Date

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GENERAL PLAN ENVIRONMENTAL ASSESSMENT FOR THE JOINT BASE ANDREWS-NAVAL AIR FACILITY, WASHINGTON, MARYLAND
FINAL

DEPARTMENT OF THE AIR FORCE

Prepared for:
U.S. Air Force Center for
Engineering and the Environment

April 2011

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ACRONYMS/ABBREVIATIONS

°F	Degrees Fahrenheit
µg/m^3	Microgram Per Cubic Meter
11 CES/CEA	11th Civil Engineer Squadron/Asset Management Flight
11 CES/CEAO	11th Civil Engineer Squadron/Asset Management Optimization Element
11 WG	11th Wing
79 MDW	79th Medical Wing
89 AW	89th Airlift Wing
113 WG	113th Wing
316 WG	316th Wing
459 ARW	459th Air Refueling Wing
AAM	Annual Arithmetic Mean
ACES	Automated Civil Engineering System
ADP	Area Development Plan
AE	Architectural and Engineering
AEF	Air and Space Expeditionary Force
AFB	Air Force Base
AFCESA	Air Force Civil Engineer Support Agency
AFDW	Air Force District of Washington
AFI	Air Force Instruction
AFOSI	Air Force Office of Special Investigations
AFRC	Air Force Reserve Command
AGL	Above Ground Level
AICUZ	Air Installation Compatible Use Zone
AMC	Air Mobility Command
Andrews	Andrews Air Force Base
ANG	Air National Guard
ANGRC	Air National Guard Readiness Center
AOC	Area of Concern
APZ	accident potential zone
AQCR	air quality control region
AST	above ground storage tank
AT/FP	anti-terrorism/force protection
BASH	bird-aircraft strike hazard
BCE	Base Civil Engineer
bgs	below ground surface
BMP	Best Management Practice
BRAC	Base Realignment and Closure
BX	Base Exchange
CAA	Clean Air Act
CDP	Census Designated Place
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CES/CEAO	Civil Engineer Squadron/Asset Management Optimization Element
CFR	Code of Federal Regulations
CIP	Capital Improvements Program
CO	Carbon Monoxide
COMBS	Contractor Operated & Maintained Base Supply
CWA	Clean Water Act
D.C.	District of Columbia

ACRONYMS/ABBREVIATIONS (Continued)

DAP	Discharge Authorization Permit
dB	Decibel
dBA	A-Weighted Decibels
DCANG	District of Columbia Air National Guard
DoD	Department of Defense
DV	Distinguished Visitor
EA	Environmental Assessment
EIFS	Economic Impact Forecast System
EISA	Energy Independence Security Act
EO	Executive Order
EOD	Explosive Ordnance Disposal
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	Environmental Restoration Program
ESA	Endangered Species Act
ESQD	Explosive Safety-Quality Distance
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FY	fiscal year
GSU	Geographically Separated Unit
HAZMART	hazardous materials pharmacy
HAZMAT	hazardous materials
HQ	Headquarters
HVAC	Heating, Ventilating, and Air Conditioning
Hz	Hertz
IAP	initial accumulation point
ICRMP	Integrated Cultural Resources Management Plan
IDEA	Installation Development Environmental Assessment
LBP	lead-based paint
LEED	Leadership in Energy and Environmental Design
L_{dn}	Day-Night Average Sound Level
L_{eq}	Equivalent Noise Level
$L_{eq(8)}$	Equivalent Noise Level over an Eight-Hour Period
$L_{eq(24)}$	Equivalent Noise Level over a 24-Hour Period
LQG	large quantity generator
LRS	Logistics Readiness Squadron
LZ	landing zone
MCF	modified commercial forestland
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MFH	Military Family Housing
MILCON	Military Construction
MS4	Municipal Separate Storm Sewer Systems
MSGP	Multi-Sector General Permit
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NCF	non-commercial forestland
NCR	National Capital Region
NCRRAF	National Capital Region Relocation Administrative Facility
NEI	National Emissions Inventory
NEPA	National Environmental Policy Act
NGB	National Guard Bureau

ACRONYMS/ABBREVIATIONS (Continued)

NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
O_3	Ozone
O&M	operations and maintenance
OCONUS	Outside the Continental United States
OSHA	Occupational Safety and Health Administration
Pb	Lead
PEPCO	Potomac Electric Power Company
PL	Public Law
PM	Particulate Matter
$PM_{2.5}$	particulate matter less than 2.5 micrometers in diameter
PM_{10}	particulate matter less than 10 micrometers in diameter
POL	petroleum, oil, and lubricants
POV	privately owned vehicle
PPE	personal protective equipment
ppm	Parts Per Million
PSD	Prevention of Significant Deterioration
psi	pounds per square inch
PVC	poly-vinyl chloride
RCF	restricted commercial forestland
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
SAIC	Science Applications International Corporation
SAM	Special Air Mission
SARA	Superfund Amendments and Reauthorization Act
SF	Square Foot
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMV	sewer metering vault
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
SPDF	Strategic Planning Development Facility
SWPPP	Storm Water Pollution Prevention Plan
TMP	Transportation Management Plan
TPY	Tons Per Year
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
VMT	vehicle miles traveled
VOC	Volatile Organic Compound
VQ	Visitors Quarters
WG	Wing
WGL	Washington Gas Light
WMA	Water Management Administration
WSSC	Washington Suburban Sanitary Commission

EXECUTIVE SUMMARY

PURPOSE AND NEED FOR ACTION

Introduction

The 2010 Andrews General Plan Update documents the existing facilities and infrastructure needed to support the base's current and future missions. The last General Plan initiative, which occurred in 2003, provides a basis for this update. This update is also based on the installation mission and vision, comprehensive planning goals, and the 2008 Team Andrews 25-Year Strategic Plan guiding principles. Since completion of the 2003 General Plan, major changes have occurred at Andrews, most significantly, Base Realignment and Closure (BRAC) 2005.

Pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321-4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Sections 1500-1508), and 32 CFR Part 989, et seq., the 11th Civil Engineer Squadron/Asset Management Optimization Element (11 CES/CEAO) has prepared an environmental assessment (EA) that considers the potential consequences to human health and the natural environment.

Purpose and Need for Action

The purpose of the updates to the Andrews General Plan and the associated component plans is to reflect current conditions and make recommendations for improvements to the installation. The General Plan allows the base to implement these recommendations for improvements.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Proposed Action

Andrews proposes to implement the projects contained within an updated General Plan. These projects would include construction, demolition, renovation, and maintenance activities within the main base, the Brandywine Receiver Station, and the Davidsonville Transmitter Station.

No-Action Alternative

Under NEPA and CEQ regulations (40 CFR Part 1502.14(d)), “no action” means that the Proposed Action would not take place, and the resulting environmental effects from taking no action would be compared to the effects of permitting the Proposed Action to be implemented. NEPA also requires analysis of baseline conditions as reflected by the no action alternative to compare the impacts to those resulting from the Proposed Action.

AFFECTED ENVIRONMENT AND CONSEQUENCES

The following resource areas were evaluated as part of the EA: noise, air quality; safety and occupational health; earth resources; water resources; infrastructure/utilities; hazardous materials and wastes; biological resources; cultural, historical, and archeological resources; socioeconomic and environmental justice and protection of children; land use and visual resources; and sustainability and greening.

ENVIRONMENTAL CONSEQUENCES

No impacts are anticipated to occur for hazardous materials and wastes; cultural, historical, and archeological resources; and land use and visual resources. Minimal impacts are anticipated within the earth resources and noise environment at Andrews.

Positive impacts are anticipated to socioeconomic and environmental justice and protection of children, infrastructure/utilities, and safety and occupational health. Potential impacts to other resource areas are described below.

Air Quality

Projects proposed under the proposed action would cause increases in pollutant emissions temporarily and in a localized area. Once construction and demolition activities are completed, emissions would return to baseline levels. Equipment that is repaired or replaced may function more efficiently, which could potentially decrease emissions.

The construction emissions for the projects proposed in the General Plan Update, though temporary, would need to consider the PM2.5 non-attainment status and moderate non-attainment status for O3 and verify that conformity applicability thresholds would not be exceeded. The implementation of these projects has the potential for long-term decreased vehicle emissions by personnel and residents alike installation-wide. Short-term impacts to emissions from construction/demolition activities and long-term impacts are expected to have a positive effect.

Water Resources

The General Plan Update provides concepts of proposed construction and demolition. Specific information regarding the specific impact area of a proposed building, for example, is not available and would be evaluated in a separate NEPA analysis once the specific design requirements of the project have been developed. Although much of the area proposed for construction is existing impervious surface, it is anticipated that implementation of the Proposed Action would potentially result in a net increase of impervious surfaces (concrete or asphalt pavement, buildings, etc.). The reorganization of land uses, consolidation of facilities, and stormwater retro-fitting of existing parking facilities is likely to mitigate any increase. Future projects would comply with the current version of the *Maryland Stormwater Management Guidelines for State and Federal Projects* and with the requirements of the Energy Independence Security Act (EISA) Section 438. These projects will also comply with Maryland Department of the Environment (MDE) comments regarding water quality submitted during the public comment period of this EA.

The Proposed Action would potentially increase the amount of impervious surfaces on the installation, resulting in an increase in the amount of surface runoff and a decrease in groundwater recharge. However, the reorganization of land uses, consolidation of facilities, and stormwater retro-fitting of existing parking facilities is likely to mitigate any increase surface runoff. Project design and construction would meet all appropriate federal and state stormwater regulations. Proposed projects at the GSU are not anticipated to impact water resources as these projects would most likely involve replacing or modifying existing antennas.

Biological Resources

Minor impacts to forested area on the main installation would be anticipated. No projects in the General Plan Update are anticipated to impact vegetation at the Brandywine or Davidsonville site. The construction activities associated with the Proposed Action would not impact wildlife reproduction, movement, or habitat.

No sensitive wildlife or plant species would be affected by the Proposed Action, as they, as they are not known to occur at the proposed construction sites. Should proposed projects occur in the vicinity of sensitive species, additional NEPA analysis would be required.

The engineering design of the projects in the General Plan Update will conform to the Air Force's policy to avoid wetland impacts whenever possible. Should there be a potential for wetland impacts, additional permitting and NEPA analysis would be required.

Sustainability and Greening

To the extent possible, the construction projects would be implemented using sustainable design concepts. Sustainable design concepts emphasize state-of-the-art strategies for site development, efficient water and energy use, and improved indoor environmental quality. All mandatory sustainability requirements (e.g. MDE, Leadership in Energy and Environmental Design criteria, and EISA Section 438) would be incorporated into project designs.

CUMULATIVE IMPACTS

No cumulative impacts are anticipated as a result of implementing the Proposed Action.

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1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The General Plan Update for Joint Base Andrews-Naval Air Facility, Washington, Maryland (Andrews) describes the installation's ability to support the mission and vision. The mission of Andrews is to provide contingency response capability to critical national security. This includes: emergency reaction rotary-wing airlift for the National Capital Region (NCR); combat-ready airmen to Air and Space Expeditionary Forces (AEFs); and a secure installation with robust infrastructure that supports organizations on base. The vision of Andrews is to provide a secure aerial gateway to the Nation's Capital for the President of the United States, Vice President, Executive Cabinet members, members of Congress, military leaders, foreign heads of state, and other dignitaries (AAFB 2010). For many visitors, Andrews provides a first impression of the United States of America and showcases the creative spirit and cutting-edge innovation for which Americans are known.

The 2010 Andrews General Plan Update documents the existing facilities and infrastructure needed to support the base's current and future missions. The last General Plan initiative, which occurred in 2003, provides a basis for this update. This update is also based on the installation mission and vision, comprehensive planning goals, and the 2008 Team Andrews 25-Year Strategic Plan guiding principles. Since completion of the 2003 General Plan, major changes have occurred at Andrews, most significantly, Base Realignment and Closure (BRAC) 2005.

The BRAC actions added approximately 2,000 people to the installation. While the BRAC projects and the associated personnel moves were evaluated in an

Environmental Assessment (EA) for BRAC 2005 (AAFB 2007a), there has been no cumulative impact analysis of the proposed changes for the Base General Plan in association with BRAC related projects.

Pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321-4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Sections 1500-1508), and 32 CFR Part 989, et seq., the 11th Civil Engineer Squadron/Asset Management Optimization Element (11 CES/CEAO) will be preparing an EA that considers the potential consequences to human health and the natural environment. The EA will examine the consequences of implementing the proposed updates and projects identified in the Andrews General Plan and will include analysis of the no-action alternative.

1.2 BACKGROUND

Construction of the airfield that was to become Andrews began in 1942. The installation became operational in May 1943 as the Camp Springs Army Airfield. The name was changed to Andrews Field in 1945. When the Air Force became a separate service in 1947, the installation was renamed Andrews Air Force Base (AFB). The base serves as a travel and support center for the President of the United States and other distinguished federal and foreign civilian and military dignitaries. On January 5, 2005, the Air Force reactivated the Air Force District of Washington (AFDW) as the single Air Force voice for planning and implementing Air Force and joint solutions within the NCR. The reactivation of the AFDW brought with it significant changes to Andrews. On May 12, 2006, the 89th Medical Group at Andrews and the 11th Medical Group, Bolling AFB,

Washington, D.C., combined into the 79th Medical Wing (79 MDW) where it established its Headquarters (HQ) at Andrews. In June 2006, the 316th Wing (316 WG) stood up under the command of AFDW as the new host unit for Andrews and its nearly 50 tenant units to include organizations from the Air Force Reserve, Air National Guard (ANG), Civil Air Patrol, and the U.S. Navy. The activation of the 316 WG prompted the transfer of the 1st Helicopter Squadron from the 89th Airlift Wing (89 AW) to the 316th Operations Group. In May of 2007, the AFDW, as well as the 844th Communications Group, transferred from Bolling AFB to Andrews. On October 1, 2009, Andrews became Joint Base Andrews-Naval Air Facility, Washington, Maryland, and finally, on October 1, 2010, the 316 WG's designation changed to the 11th Wing (11 WG) and will be referred to as such throughout the remainder of this EA.

1.2.1 Location of the Proposed Action

Andrews is located approximately five miles southeast of Washington, D.C., in southern Prince George's County, Maryland, and comprises 4,390 acres (Figure 1-1). The communities of Camp Springs and Morningside are located adjacent to the base. The Washington Beltway (Interstate 495) is immediately northwest of the base, and the Patuxent River is located approximately seven miles east of the base. The surrounding land use consists of residential, industrial, commercial, and institutional areas, as well as woodlands. The total population living and working on Andrews, including partner units, is approximately 16,697 persons.

1.2.2 General Planning

Air Force Installation General Plans are authorized by Air Force Instruction (AFI) 32-7062 to serve two purposes. First, they form a single, integrated, authoritative reference

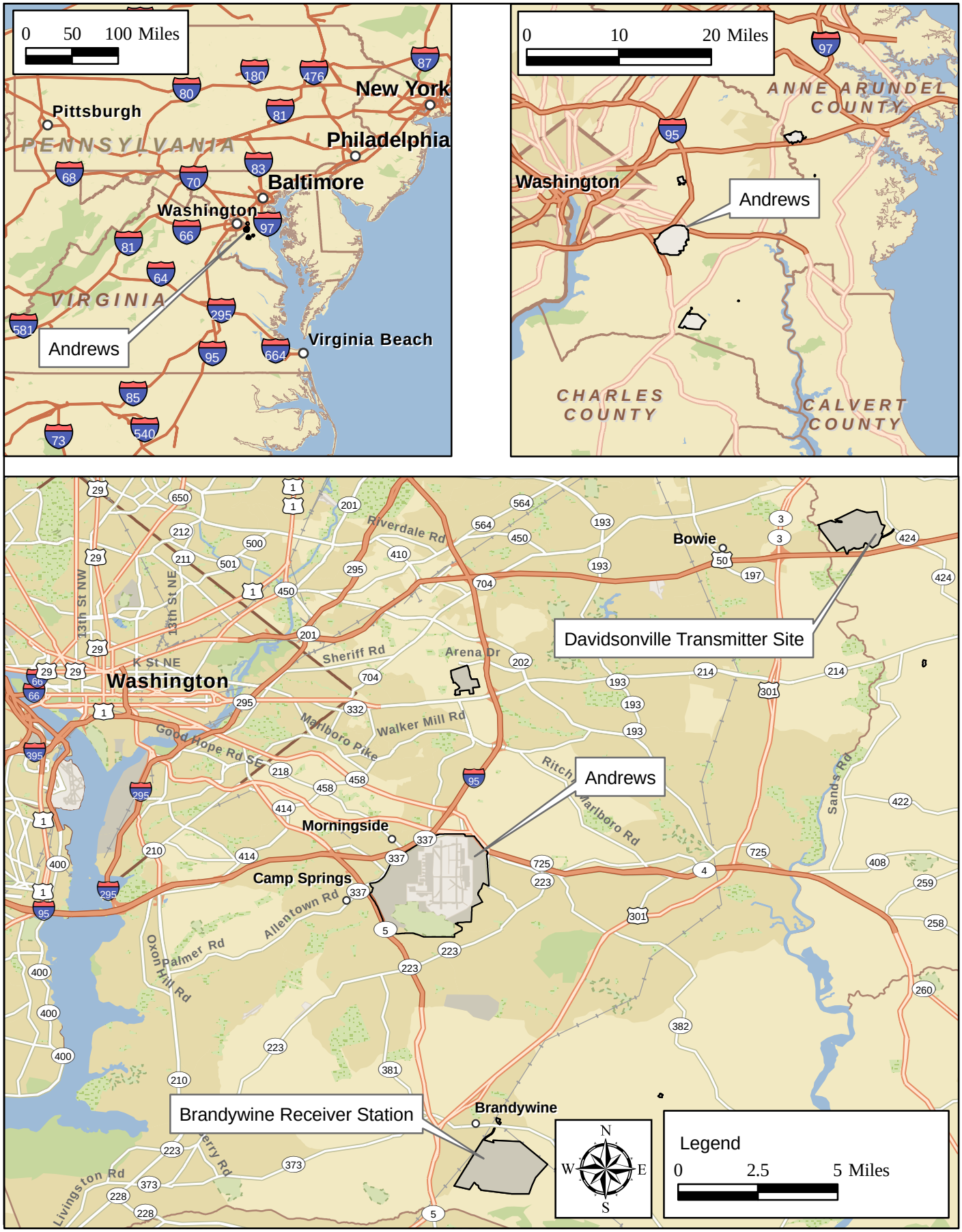

Figure 1-1. Location of Joint Base Andrews-Naval Air Facility, Washington, MD

for existing and future installation development. Second, they provide a high-level summary of environmental, land use, transportation, and infrastructure conditions for the installation.

An Air Force General Plan synopsizes information from four component plans: constraints and opportunities; infrastructure; land use and transportation; and Capital Improvements Program (CIP).

The constraints and opportunities component section of the General Plan Update integrates natural and cultural resources information, environmental quality issues, and airspace operational and safety requirements. This section specifically describes resources such as environmental restoration sites, hazardous waste sites, and wetlands and floodplains. Airfield criteria are another important aspect of this section. There are limits on building heights around the airfield for flight safety reasons. Explosive safety arcs are shown around areas where munitions are stored and handled. All of these criteria are mapped, and the result shows areas where certain limitations occur, as well as areas that are free of constraints.

The infrastructure section of the General Plan Update consolidates the utility supply and delivery systems and infrastructure into one source to provide a concise overview of the condition of these systems throughout the installation. Roadway and airfield pavements are also included in this component. Information includes capacity, system details, age, and condition of facilities. The infrastructure overview provides decision makers with the information necessary to clearly comprehend these critical engineering systems and the capability to support future development.

The land use component analyzes and identifies the functional relationship of all activities that occur on the installation. This component documents the relationship between activities and defines their importance as it relates to proximity. It also analyzes the transportation networks, both on and off the installation, and provides recommendations on traffic movement and road development to improve efficiency. Finally, it provides recommendations for future land use and transportation. The changes proposed to land use warrant development of Area Development Plans (ADPs), as incorporated in the CIP.

The CIP examines facility conditions; plans for future activities such as construction, repair, maintenance, and demolition; and makes recommendations for architectural compatibility and landscaping. The CIP presented in the General Plan Update and the aforementioned land use section refer to the ADPs for further information regarding specific land use changes and facilities for the ADP areas. Eight ADPs are described in the General Plan Update. These include: the West Administrative Area, the Town Center/Readiness Complex Area, the Industrial Area, the Operations Quadrant Area, the West Flightline Area, the 459th Flightline, the East Administrative Area, and the East Perimeter Road Area.

1.3 PURPOSE AND NEED FOR ACTION

The purpose of the updates to the Andrews General Plan and the associated component plans is to reflect current conditions and make recommendations for improvements to the installation. The General Plan allows the base to implement these recommendations for improvements.

The proposed updates to the Andrews General Plan are needed to provide the installation's and unit commanders with up-to-date development possibilities for the installation and to assist the base planners in compliance with the overall vision of the respective mission at Andrews. It is also an opportunity to delineate portions of the base where new mission and facilities could be placed within compatible use areas. Additionally, the CIP assigns projects that not only meet this need but also provide the necessary repairs and maintenance to keep the installations running efficiently.

Some of the key changes to the existing conditions at Andrews since the last General Plan Update are BRAC, privatization of Military Family Housing (MFH), privatization of the water and natural gas systems and other utility systems, construction of the William B. Jones building, and the creation of Joint Base Andrews-Naval Air Facility, Washington, Maryland. The 25-Year Strategic Plan Guiding Principles focus on creating pedestrian-oriented development that reduces reliance on vehicles, creating a downtown atmosphere that supports social interaction and siting facilities to maximize mission efficiency.

The updates include the ADPs, the CIP, and other infrastructure improvements, all of which involve construction activities. The goal of this EA is to analyze the projects defined in these components of the General Plan Update and assess their potential impacts to the environment.

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2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The Air Force proposes to implement the projects within the General Plan Update for Andrews. The updates include the ADPs, the CIP, and other infrastructure improvements, all of which involve both demolition and construction activities. The goal of this EA is to analyze the various components of the General Plan Update and assess their potential impacts to the environment.

2.1 PROPOSED ACTION

Andrews proposes to implement the projects contained within an updated General Plan. These projects would include construction, demolition, renovation, and maintenance activities within the main base, the Brandywine Receiver Station, and the Davidsonville Transmitter Station. The Proposed Action is divided into two major categories, CIP project list and ADPs. An initial CIP was presented in the General Plan Update. The intent of the CIP is to compile all of the projects that require expenditures relative to the base's physical plan. The ADPs describe the development of certain areas of the installation for logical growth relative to the functionality of the area. The infrastructure, land use, and transportation improvements are interrelated to both the CIP and the ADPs and have been included in these sections and not discussed as separate sections of the document.

2.1.1 Capital Improvements Program

As part of the implementation of the General Plan Update, Andrews is in the process of developing a CIP. The projects within the CIP portion of the General Plan are derived from the Automated Civil Engineering System (ACES). Many of the projects have been analyzed in previous Andrews NEPA documents, including the *Final Environmental*

Assessment (EA) for the FY07-11 BRAC Construction Requirements at Andrews AFB, Maryland (AAFB 2007a); the *Final Installation Development Environmental Assessment (IDEA) at Andrews Air Force Base, Prince George's County, Maryland* (AAFB 2008a); the *Environmental Assessment for the Construction and Operation of a New Shoppette/Gas Station, Class Six Store, and Name-Brand Fast Food Store at Joint Base Andrews Camp Springs, Prince George's County, Maryland* (USAF 2010a); and the *Environmental Assessment for West Runway Repair at Joint Base Andrews-Naval Air Facility, Washington, Maryland* (USAF 2010b) and are not discussed further as part of this Proposed Action but will be included in cumulative impacts section, Chapter 5. The ACES lists the proposed projects, which have been identified as having a need by the individual proponents of each action. These projects are reviewed by the Joint Base Andrews Facility Board and approved by the 11 WG Commander based upon the following criteria: correct health safety deficiency; reduce facility mission/organization footprint; increase energy efficiency or reduce consumption; correct failing infrastructure or facility component; support base General Plan; support unit's primary mission; and improve quality of life. New construction, additions, remodels, demolition, maintenance, and repair-type projects comprise those on the ACES list.

All new facilities would be designed to comply with the *Andrews Air Force Base Architectural Compatibility Plan* (AAFB 2009a). Major building projects must also comply with the Air Force Policy Memorandum requiring Leadership in Energy and Environmental Design (LEED) Green Building Rating System as the Air Force preferred self-assessment metric. The standards require energy-saving building techniques, supplies, and equipment to reduce environmental impacts and provide for energy savings from the construction and operation of these new facilities.

Several facility requirements are currently programmed beyond the base's five-year Facility Development Plan and have been identified as requirements in the out-year program. Generally, these projects are in differing stages of planning and may require additional scope development, justification, and prioritization. The ADPs depict conceptual site plans for many of these out-year projects. The complete list of out-year facility requirements is provided in Appendix A.

The demolition of outdated and obsolete facilities is also an important part of the installation's plan to achieve excellence in its facilities and improve the quality of life for assigned personnel. The demolition program is designed to improve operational efficiency by demolishing substandard and inefficient facilities.

A comprehensive list of facilities that require demolition in order to implement ADPs is provided in Appendix A.

2.1.2 Area Development Plans

ADPs are conceptual plans that suggest sitings, building sizes, parking arrangements, and other important amenities in the future built and landscaped environment. The eight ADPs for Andrews were initially developed by base planners and civil engineers as part of the 2025 Strategic Plan and refined during the development of the General Plan. These ADPs are appropriately placed within the context of the future land use plan and provide the installation with courses of action for key areas of the base.

Area Development Plans

The locations of the eight ADPs are provided in Figure 2-1.

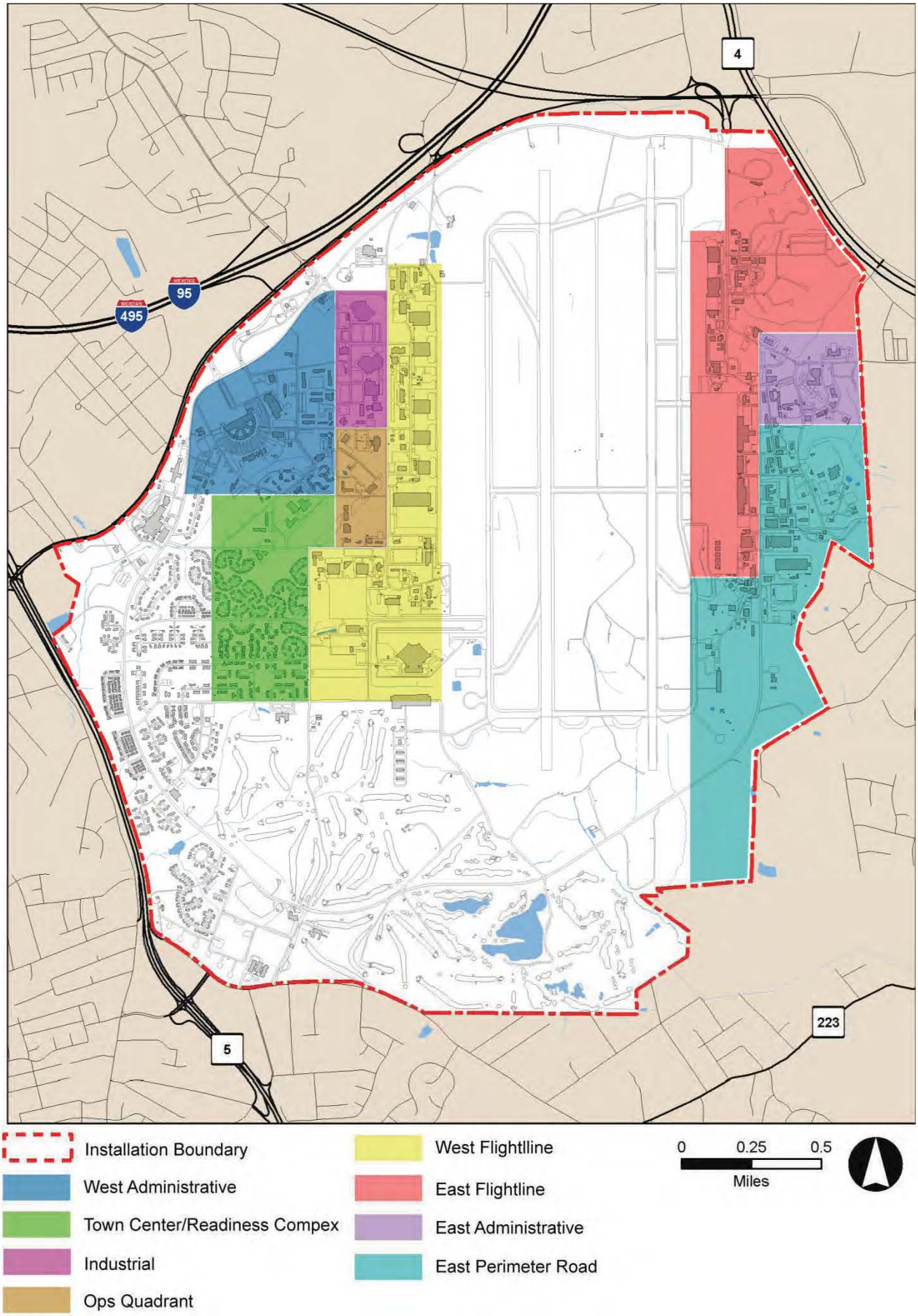


Figure 2-1. Joint Base Andrews-Naval Air Facility ADPs Locations

2.1.2.1 West Administrative Area Development Plan

The existing administrative area on the west side of the base would remain approximately in the same area. Industrial base civil engineer (BCE) facilities (Buildings 1513, 1515, 1517, 1522, 1524, 1525, and 1527) located in the west administrative area would be demolished through the implementation of a new BCE complex project. This new complex is a military construction (MILCON) project and would be located in the industrial zone of the base (Figure 2-2).

The 2005 BRAC decisions changed much of the administrative real property requirement on Andrews. The installation's west administrative area is expected to grow by 804 administrative personnel, arriving from leased facilities located throughout Northern Virginia. A portion of the current occupants in Building 1535 would be relocated off Andrews, also as a result of BRAC 2005. To accommodate this net increase, a new BRAC/NCR facility is currently being constructed to the north of Building 1535. Upon completion of construction and personnel movement into the new facility, Building 1535 would be demolished. The new administrative campus would be anchored by the BRAC/NCR facility and will include future expansion space behind this facility. The new 11 WG/AFDW HQ would also be constructed in this area and situated in a prominent location along Alabama Avenue.

2.1.2.2 Town Center Area Development Plan

The Town Center is proposed to be the central hub for community activities, with pedestrian-oriented activities creating a "live, work, play" atmosphere. The new Andrews Town Center would be constructed in part of the former MFH. Portions of the former MFH are being renovated or demolished and replaced with new privatized

2009 Status **ADP Concept** **Not to Scale**

Figure 2-2. West Administrative Area

housing. The concept of the town center being located near the center of the base and close to housing, the dormitory quadrant, and the industrial and administrative areas will make this area a focal point for activity on Andrews. This creates a great opportunity for the installation to establish a "downtown atmosphere." An established road network would direct traffic into the Town Center, but would not encourage the use of "Main Street" as a thoroughfare between the main gate and the Virginia gate. Instead, the roads form a "loop system" that would direct vehicles into the Town Center from both sides. This technique minimizes the number of vehicles using the Town Center as a shortcut.

Figure 2-3 depicts guidance for the physical development of "Main Street." It requires a two-story minimum building height that would utilize mixed-use development with community uses on the first floor and housing/office space above, creating a pleasant and more walkable downtown atmosphere. The 33-plus-foot-wide area along Main Street provides walkways, planting areas, and café zones, as well as meeting the minimum Anti-Terrorism/Force Protection (AT/FP) standoff requirement.

The concept for this area is that a pedestrian could access the Town Center from the housing area, dorms, fitness center, visitors quarters (VQ), or the Strategic Planning Development Facility (SPDF) without the need of a vehicle. Customers accessing the site from off base could park once and then walk to several destinations to accomplish many tasks. The concept of having these destinations within walking distance would encourage ridership on a transit system, if one should be developed in the future. A reliable transit system, in combination with properly designed physical destinations, would allow visitors and employees at Andrews to access the installation's town center without a vehicle.

2009 Status

ADP Concept **Not to Scale**

Figure 2-3. Town Center/Readiness Complex

The SPDF is currently under construction in the northeast corner of the town center and will function as a location to host large meetings or conferences that involve classified discussions in combination with secure communications systems. The new VQ will provide the lodging facilities needed to accommodate these meeting and conference guests on base for extended periods under secure or self-contained conditions. The construction of the NCR readiness complex is also proposed in the Town Center ADP. This complex would provide a location that complies with the requirements of the Department of Defense (DoD) information security program in the Washington, D.C., area. In addition, lodging, dining, and other community facilities would be provided within the secured confines of the installation. The location of the readiness complex within the town center would promote pedestrian traffic from the SPDF and lodging to community facilities, such as the fitness center, dining facility, exchange, commissary, and other services.

2.1.2.3 Industrial Area Development Plan

The proposed west industrial area marks another large land use shift from community type functions. Once the Base Exchange (BX) and commissary are relocated to the newly established town center, their current location would become the new western industrial area (Figure 2-4).

The BCE, logistics readiness squadron (LRS), and base supply would relocate to the industrial area. All of these moves would locate customers closer to the 11 WG functions, reducing trip times now spent traversing across the installation. These industrial areas do not present quite the same opportunities for pedestrian access by the nature of their activities. Large vehicle parking areas and areas for off-loading are

2009 Status

ADP Concept **Not to Scale**

Figure 2-4. Industrial ADP

required for these functions. However, pedestrian access could still be facilitated by locating new facilities close to the servicing road, eliminating the need for pedestrians to cross industrial vehicle lots.

2.1.2.4 Operations Quadrant Area Development Plan

The newly built squadron operations facility, Building 1658, provides the anchor to further development of operations-related facilities in this area. The consolidated security forces project is proposed to be constructed near the new Building 1658 due to mission similarities. Other operations requirement facilities would be located in the operations quadrant bounded by D Street, Arkansas Road, Brookley Avenue, and Arnold Avenue (Figure 2-5).

2.1.2.5 West Flightline Area Development Plan

The west flightline is currently in need of extensive renovation. After many years of service, most of the infrastructure is out-of-date and requires modernization. The primary facilities on the west flightline were built in the late 1950s and the early1960s. The aircraft maintenance mission can be optimized through modern configuration of new hangars. Currently, maintenance back shops are literally located “in the back” of the hangars, separated by the pathfinder fence. New hangars are planned to be built to replace Hangars 4, 5, and 6/7 (Buildings 1734, 1714, and 1280, respectively). The 1st Helicopter Squadron hangar and alert facility would remain in their current locations and expand into Hangar 2 when the need occurs (Figure 2-6).

The existing MILCON project to replace Aircraft Supply (Buildings 1752, 1762, and 1772) is still recommended. The new buildings were to be located on the current site of

2009 Status **ADP Concept** **Not to Scale**

Figure 2-5. Operations Quadrant ADP

2009 Status

ADP Concept

Not to Scale

Figure 2-6. West Flightline

these facilities. However, the strategic planning team recommended relocating the new facility further north in the approximate location of Buildings 1931 and 1932.

Andrews is in desperate need of a mobility processing center and a new modern warehouse. These new facilities, supporting all installation mobility missions, would be in the approximate location of Buildings 1772, 1778, 1933, and 1934.

The passenger terminal, Building 1245, does not meet current or future mission requirements. There are frequent conflicts between distinguished visitor (DV) passenger, regular passenger, and press coverage operations. Often “gray” aircraft passenger service must be inconvenienced to accommodate DV missions with associated press coverage. A new modern passenger terminal is required. However, only the functions required on the flightline would be accommodated in the proposed new facility. The remaining functions, such as the command post and aircrew training, would relocate to a new facility in the operations quadrant (Figure 2-5). The passenger functions would be built on the first floor with base operations on the upper floor.

The fire department would be relocated in a new facility along the west flightline. The facility would provide faster response time to each end of the runways. The new location would allow direct access to both sides of the pathfinder fence for emergency responses. The new location on the flightline would also allow fire station #2 on the east flightline to be downgraded to structural response only and provide needed room for training.

2.1.2.6 East Flightline Area Development Plan

The 459th Air Refueling Wing (459 ARW) is an Air Force Reserve Command (AFRC) unit that operates the KC-135 Stratotanker aircraft. The 459 ARW HQ and facilities are

located on the east side of the base adjacent to Patrick Avenue. The unit uses two maintenance hangars (Hangars 10 and 11) that were constructed in 1944. These hangars are in violation of the height restriction associated with the 7:1 transitional surface. In addition, the entire aircraft parking apron is within the east runway's 1,000-foot primary surface. The existing hangars are not capable of being retro-fitted to house a larger airframe. New hangars would be required to accommodate larger airframes, which would also eliminate the existing airfield clearance zone waiver.

In the area along Tyler Road and Michigan Avenue where housing has been demolished, a new famcamp/outdoor recreation area, a paintball course, and other physical fitness activities would be located within a re-established natural setting.

As shown in Figure 2-7, the ADP illustrates the long-range expansion of the east aircraft parking ramp and new hangar facilities for both the AFRC and Navy tenants as well as a new Contractor Operated and Maintained Base Supply (COMBS) facility.

2.1.2.7 East Administrative Area Development Plan

The East Administrative ADP is located south of Fetchet Avenue and east of East Perimeter Road. Currently, the area is a series of scattered buildings among large expanses of pavement that serve the Air National Guard Readiness Center (ANGRC), 459 ARW HQ, Naval Air Facility, and the 113th Wing (113 WG) HQ. The ADP for this area, in conjunction with the 459th Flightline ADP (Figure 2-7), would collocate these administrative buildings and relocate non-flightline operations from the flightline. The plan would consolidate tenant operations into three buildings, as well as add community services that are currently unavailable on the east side of the base. This concept would

2009 Status

ADP Concept

Not to Scale

Figure 2-7. East Flightline

create an administrative campus that surrounds a secondary community hub dedicated to the east side of the base (Figure 2-8).

2.1.2.8 East Perimeter Road Area Development Plan

Due to increases in base gate security after 9/11, the Pearl Harbor Gate no longer met security requirements and has since been rebuilt to meet new force protection standards. The expansion of this gate has led to several other opportunities to realign traffic patterns and expand/move existing facilities. The Pearl Harbor gate is the only industrial gate on the base, and this ADP creates a central industrial "core" with storage facilities adjacent to this gate access. This location would eliminate substantial volumes of vehicle traffic that currently use roads throughout the central core of the base. This concept would keep these vehicles on the outskirts of the installation (Figure 2-9).

2.2 METHODOLOGY FOR IDENTIFYING PROPOSED ACTION AND ALTERNATIVES

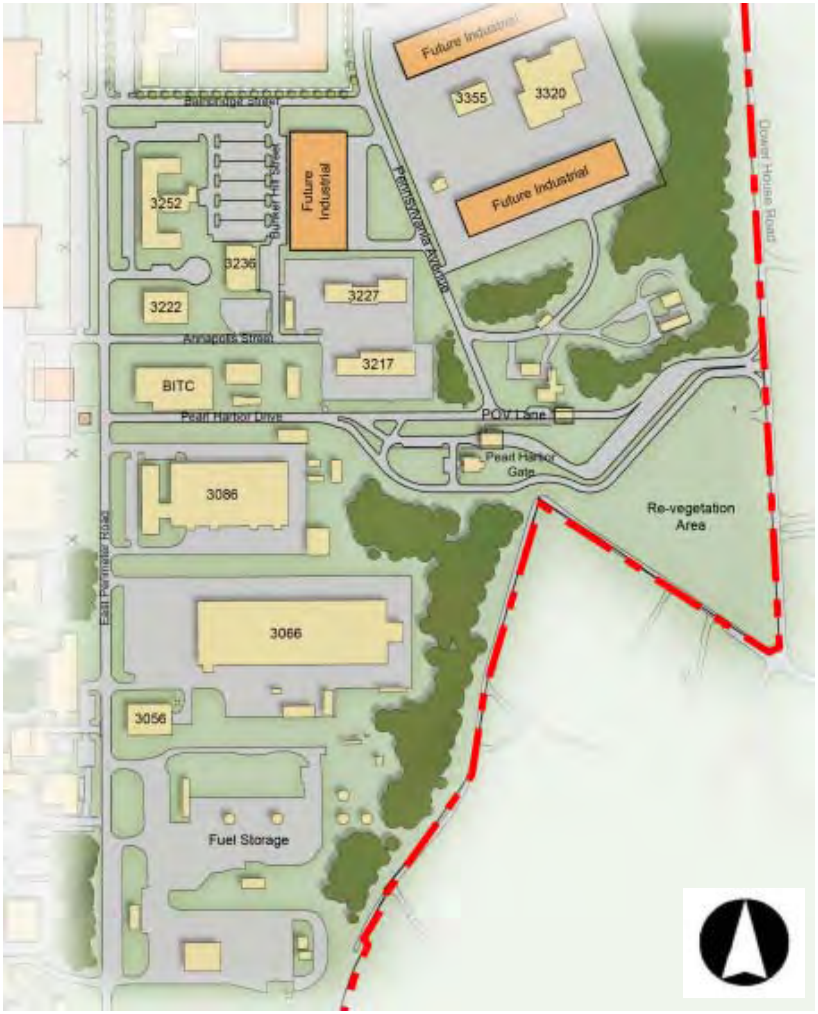
The Proposed Action and alternatives were identified through a process that examined the basic requirements for the action, the exclusionary criteria that eliminated actions from consideration, and the need for additional analyses. Actions in locations that were not compatible, violated environmental- or criteria-based constraints (such as locations of protected species or causing airfield obstruction), or have already been analyzed under NEPA, were not included within the Proposed Action and alternatives.

2.2.1 Basic Requirements and Exclusionary Criteria

The basic requirements for assembling the General Plan are to meet the 11 WG Commander's vision for the future configuration of Andrews. Future planning accounts for current and anticipated mission needs yet remains flexible to accommodate mission

Figure 2-8. East Administrative Area

2009 Status



ADP Concept

Not to Scale

Figure 2-9. East Perimeter Road Area

changes. In the case of Andrews, which is home to more than 60 tenant units, needs change frequently as airframes, tactics, and equipment continue to evolve. There are some constants, which in many respects are the focus of this EA. Flight operations will always occur along the flightline. Community services and dormitories are required for the installation to function as an active base. The General Plan provides a logical configuration that accommodates the basic needs for flying operations, community necessities, and dormitories by utilizing existing locales for similar items and taking into consideration utility requirements and proximity to other different, yet compatible, functions (i.e. dormitories should be located within walking distance from community services). Through the planning process, these compatibilities and incompatibilities were closely examined and are illustrated in Figure 2-10.

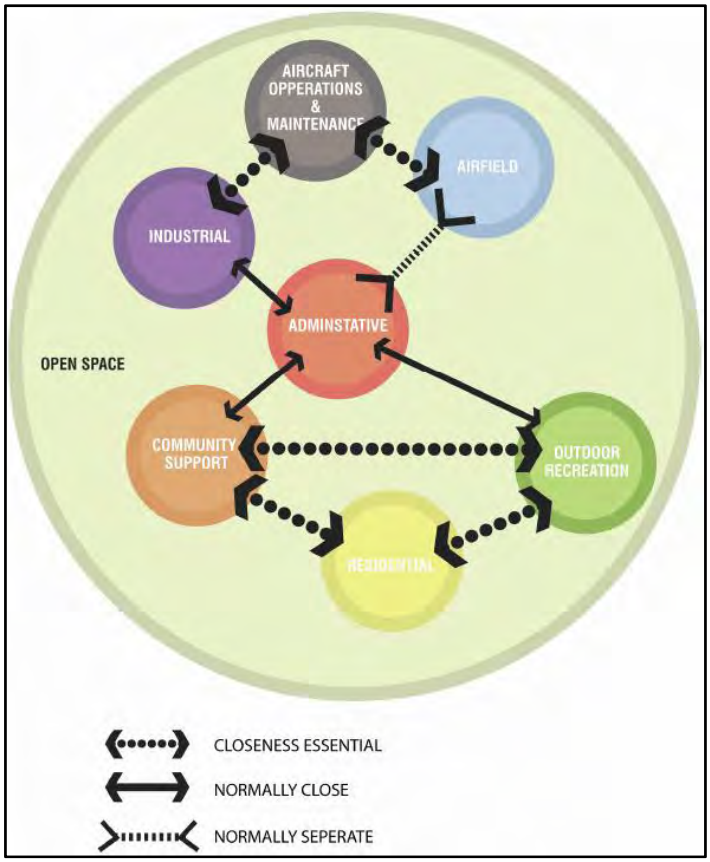


Figure 2-10. Functional Relationship Diagram

A General Plan combines like functions into compatible areas while avoiding placing incompatible functions adjacent to one another. Plans that would place incompatible and normally separate land uses close together were excluded, while those with compatible uses were consolidated.

2.2.2 Evaluative Criteria

Generally, planning can involve many different land uses and individual infrastructure, facility, and airfield needs. Many of the individual projects described in the General Plan are facilities that have been evaluated as part of previous planning and, by default, are placed in a specific ADP. For example, the Andrews BRAC and IDEA planning processes have already occurred, and implementation of projects evaluated in those documents has begun. It is not necessary to evaluate these projects as part of the Proposed Action or alternatives; rather, they will be addressed in the cumulative impacts section, Chapter 5.

Planning also includes the long-term vision of the base and describes projects that may or may not occur over the course of the next 10 years or longer. Although specific long-term projects are not analyzed in this EA, the capacity for additional projects is evaluated. Specific long-term projects are not evaluated in this document, because mission changes and priorities can shift, and the timelines could be extended. Secondly, long-term projects often change in scope, location, and mission such that what will be necessary to construct later may not match what is identified presently. Finally, the existing conditions and requirements that provide the basis for environmental analyses can change, rendering the resulting conclusions of the impacts dated or erroneous. In accordance with Air Force guidance, Andrews will complete an EA in conjunction with the next General Plan Update.

2.3 ALTERNATIVES TO THE PROPOSED ACTION

During the CIP and ADP planning process, numerous alternatives were investigated. Alternative analyses evaluated configurations and layouts with the composite

constraints in mind and the ADPs selected. In the case of all of the ADPs and their alternatives, the alternatives were limited because the area for the ADP contains existing facilities consistent with the ADP usage and the current land use designation. In the case of the town center, open land would be available and the configuration of the ADP could vary on different approaches; however, the purpose for the ADP would be the same, and the areas investigated are essentially homogeneous. For these reasons, it was determined that an in-depth analysis for each alternative would arrive at the same conclusions for the Proposed Action. For the sake of brevity, this EA considers all of the alternatives, and each will not be assessed individually.

2.4 NO-ACTION ALTERNATIVE

Under NEPA and CEQ regulations (40 CFR Part 1502.14(d)), “no action” means that the Proposed Action (i.e., CIP updates and ADPs for Andrews) would not take place, and the resulting environmental effects from taking no action would be compared to the effects of permitting the Proposed Action to be implemented. NEPA also requires analysis of baseline conditions as reflected by the no action alternative to compare the impacts to those resulting from the Proposed Action. The following descriptions of the current status of Andrews provide a context for comparing the changes that would occur with implementing the Proposed Action.

2.4.1 Andrews

2.4.1.1 Mission

The mission of Andrews is to provide contingency response capability critical to national security. This includes: emergency reaction rotary-wing airlift for the NCR; combat-ready airmen to AEFs; and a secure installation with robust infrastructure that supports

organizations on base. Andrews is the secure aerial gateway to the Nation's Capital for the President of the United States, Vice President, Executive Cabinet members, members of Congress, military leaders, foreign heads of state, and other dignitaries. For many visitors, Andrews is their first impression of the United States.

The 316 WG, reflagged as the 11 WG in September 2010, stood up as the host wing of Andrews in June 2006. The 11 WG delivers contingency response capabilities critical to national security, as well as organizing, training, equipping, and deploying combat-ready forces for AEFs. In addition to the 11 WG, Andrews is home to a variety of partner units including the Air Mobility Command's 89 AW, the 79 MDW, the Air Force Office of Special Investigation (AFOSI) headquarters, Air Force Reserve Command's 459 ARW, District of Columbia (D.C.) ANG's 113 WG, the Naval Air Facility, and Army and Marine Corps detachments. Table 2-1 summarizes the major units and their functions.

Table 2-1. Andrews Units Relevant to the Proposed Action

Unit	Relevant Functions
AFDW	• Air Force voice for planning and implementing Air Force and joint solutions within the NCR. • Organizes, trains, equips, and provides forces for AEF deployment, homeland operations, and ceremonial support within the NCR and worldwide. • Executes specified Military Department statutory responsibilities for administration and support of HQ Air Force and assigned Air Force units and personnel within the NCR and worldwide.
11 WG (Host Wing)	• Andrews Host Wing • Deliver contingency response capabilities critical for the protection of our National Security • Ensures emergency reaction rotary-wing airpower for the NCR; combat-ready airmen to AEFs; a secure and robust infrastructure for base organizations; and resources essential for the well-being of Team Andrews and their families. • Aircraft: UH-1N (Huey)
79 MDW	• Air Force's single medical voice for planning and implementing Air Force and joint medical solutions within the NCR. • Organizes trains, equips, and provides medical forces for AEF deployment, homeland operations, and joint operations within the NCR. • Aeromedical evacuation hub for Outside the Continental United States (OCONUS) Architectural and Engineering (AE) evacuation from the East (Iraq and Afghanistan theaters, Europe, etc.)

Table 2-1. Andrews Units Relevant to the Proposed Action (Continued)

Unit	Relevant Functions
89 AW	• Provides global Special Air Mission (SAM) airlift, logistics, aerial port, and communications for the President, Vice President, Combat Commanders, senior leaders, and the global mobility system as tasked by the White House, Chief of Staff of the Air Force, and Air Mobility Command (AMC). • Maintains a 24/7 alert, operating the Executive Airlift Training Center and Government Network Operation Center. • Aircraft: VC-25A ("Air Force One" – Boeing 747), C-20B (Gulfstream III), C-32A (Boeing 757), C-37A (Gulfstream V), and the C-40B (Boeing 737)
113 WG (District of Columbia Air National Guard [DCANG]) • 121st Fighter Squadron • 201st Airlift Squadron	• Maintain a mission-ready, F-16C unit capable of worldwide deployment. • Provide passenger airlift to the National Guard Bureau (NGB), AMC, and DCANG. • Aircraft: F-16C, C-22B, C-40B, and the C-38A (Astra) • The 121 FS provides Air Sovereignty Alert Fighter cap for the NCR
459 ARW (AFRC)	• Recruit, train, and equip its Citizen Airmen to fly and maintain the KC-135 Stratotanker to help the Air Force protect its interests in air and space power. • Aircraft: KC-135
Naval Air Facility, Washington, Maryland	• Oversees the Reserve Component requirements within the Naval District Washington Region for the Commander Navy Reserve Forces Command. • Supports Navy and Marine Corps tenant commands with facility liaison management and Joint Base air operations. • Enables and supports Reserve Component personnel to meet requirements of the U.S. Navy and DoD. • Prepares assigned Navy Reserve units for their mobilization and support assignments and provides administrative coordination and logistics support for these units.
ANGRC	• Develops, manages, and directs ANG programs that implement policies set by the DoD, the Air Force, and the NGB. • Ensures the combat readiness of ANG units and is a channel of communication between the NGB and the ANG operational activities.
844 Communication Group	• Provides vital command, control, communications, computer, multimedia, and information systems support to the 11 WG, 89 AW, 79 MDW, and partner units on Andrews as well as Bolling AFB. • Delivers high-quality on-base communications services, including: local area network support; telephone maintenance and switchboard operations; land mobile radios; public address systems; communications plans, requirements, and implementation; Base Information Transfer Center; administrative communications and records management; publications and forms management; graphics, photo, and video documentation; telecommunications center; intrusion detecting systems; communications and computer security; and meteorological and navigational systems support at three other military installations within the NCR and at Camp David.

Source: AAFB 2010

2.4.1.2 Facilities and Infrastructure

Andrews includes a well-developed infrastructure supporting a broad spectrum of functions and organizations. Covering 6,877 acres, the base complex consists of three distinct parcels: the main base and two remote satellite communications sites. The main base occupies about 4,346 acres and contains runways, flightline, industrial facilities, housing, and administrative and support facilities. The main base contains more than 1,000 buildings, including aircraft maintenance, civil engineer, base supply, administration, recreation, family housing, and dormitories (USAF 2005a). The other two areas are the Davidsonville Transmitter Site (852 acres) and the Brandywine Receiver Station (1,635 acres).

Under the no-action alternative, planning for additional facilities would continue using the 2003 General Plan and not use the ADPs for development on Andrews. The 2003 plan does not include the land use principles described in Sections 1.1 and 1.2 and actions to promote walkability, reduce vehicle miles traveled (VMT), promote sustainable practices, and account for the congressionally mandated 2005 BRAC directives.

2.5 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

The Proposed Action consists of a series of up to eight ADP projects at Andrews. Given funding levels and other factors, not all may be implemented. If specific projects were found to be substantively changed in scope from the ADP projects list, if environmental characteristics were changed, if regulations had changed, or if base mission changes affected the project (e.g., BRAC actions), the projects could be excluded without affecting other ADP projects. Analysis of an alternative composed of a subset of

projects would reduce Andrew's flexibility in decisions about ADP projects and limit the scope of environmental analysis. As such, alternative subsets of projects were not carried forward for further analysis.

2.6 REGULATORY COMPLIANCE AND PERMIT REQUIREMENTS

This EA examines the specific affected environment for implementation of projects within ADPs at Andrews. The analysis considers the current conditions of the affected environment and compares those to the no-action alternative. It also examines the cumulative impacts within the affected environment at each of these locations, as well as past, present, and reasonably foreseeable actions of the Air Force and other federal, state, and local agencies. The NEPA process is intended to assist the decision maker in understanding the environmental consequences and in taking appropriate actions that protect, restore, and enhance the environment. Other federal statutes that may apply to the Proposed Action are listed in Table 2-2.

Table 2-2. Other Major Environmental Statutes, Regulations, and Executive Orders Applicable to Federal Projects

Environmental Resource	Statutes
Noise	Noise Control Act of 1972 (PL 92-574) and Amendments of 1978 (PL 95-609); U.S. Environmental Protection Agency (USEPA), Subchapter G-Noise Abatement Programs (40 CFR 201-211)
Air	Clean Air Act (CAA) of 1970 (PL 95-95), as amended in 1977 and 1990 (PL 91-604); USEPA, Subchapter C-Air Programs (40 CFR 52-99) Environmental Justice Executive Order (EO) 12898-Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations; Protection of Children from Environmental Health Risks and Safety Risks (EO 13045)
Water	Federal Water Pollution Control Act of 1972 (PL 92-500) and Amendments; Clean Water Act (CWA) of 1977 (PL 95-217); USEPA, Subchapter D-Water Programs (40 CFR 100-145); Water Quality Act of 1987 (PL 100-4); USEPA, Subchapter N-Effluent Guidelines and Standards (40 CFR 401-471); Safe Drinking Water Act of 1972 (PL 95-923) and Amendments of 1986 (PL 99-339); USEPA, National Drinking Water Regulations and Underground Injection Control Program (40 CFR 141-149)

Table 2-2. Other Major Environmental Statutes, Regulations, and Executive Orders Applicable to Federal Projects (Continued)

Environmental Resource	Statutes
Biological Resources	Migratory Bird Treaty Act of 1918; Fish and Wildlife Coordination Act of 1958 (PL 85-654); Sikes Act of 1960 (PL 86-97) and Amendments of 1986 (PL 99-561) and 1997 (PL 105-85 Title XXIX); Endangered Species Act (ESA) of 1973 (PL 93-205) and Amendments of 1988 (PL 100-478); Fish and Wildlife Conservation Act of 1980 (PL 96-366); Lacey Act Amendments of 1981 (PL 97-79)
Wetlands and Floodplains	Section 401 and 404 of the Federal Water Pollution Control Act of 1972 (PL 92- 500); USEPA, Subchapter D-Water Programs 40 CFR 100-149 (105 ref); Floodplain Management-1977 (EO 11990); Emergency Wetlands Resources Act of 1986 (PL 99-645); North American Wetlands Conservation Act of 1989 (PL 101-233)
Cultural Resources	National Historic Preservation Act of 1966 (16 USC 470 et seq.) (PL 89-865) and Amendments of 1980 (PL 96-515) and 1992 (PL 102-575); Protection and Enhancement of the Cultural Environment-1971 (EO 11593); Indian Sacred Sites-1966 (EO 13007); American Indian Religious Freedom Act of 1978 (PL 94-341); Antiquities Act of 1906; Archaeological Resources Protection Act of 1979 (PL 96-95); Native American Graves Protection and Repatriation Act of 1990 (PL 101-601)
Solid/Hazardous Materials (HAZMAT) and Waste	Resource Conservation and Recovery Act of 1976 (PL 94-5800), as Amended by PL 100-582; USEPA, subchapter I-Solid Wastes (40 CFR 240-280); Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 USC 9601) (PL 96-510); Toxic Substances Control Act (PL 94-496); USEPA, Subchapter R-Toxic Substances Control Act (40 CFR 702-799); Federal Insecticide, Fungicide, and Rodenticide Control Act (40 CFR 162-180); Emergency Planning and Community Right-to-Know Act (40 CFR 300-399)

Stormwater. At Andrews, the architectural design team is responsible for obtaining the necessary stormwater approvals in compliance with the current version of the *"Maryland Stormwater Management Guidelines for State & Federal Projects"* (MDE 2010). All necessary documentation should be submitted to the water quality program manager during the conceptual phase of the project and then submitted by the design team to Maryland Department of the Environment (MDE) in accordance with the guidelines.

Asbestos and Lead-Based Paint Removal and Disposal. Prior to demolition or additions to buildings, asbestos surveys are required by Air Force regulation. Notification would be made to the MDE and the U.S. Environmental Protection Agency (USEPA) if threshold quantities of regulated asbestos-containing materials are met or

exceeded. An abatement plan is required to be submitted to Andrews' personnel for review and approval prior to the start of work.

Renovation, removal/replacement, and demolition projects include lead-based paint (LBP) assessment and if necessary, abatement. LBP activities will be managed and performed in accordance with Air Force policy and guidance, as well as MDE and federal regulations. An abatement plan is required to be submitted to Andrews' personnel for review and approval prior to the start of work (AAFB 2009b).

Construction. For new construction, the construction architectural design team would design the project and submit for permit coverage in accordance with the current version of the *"Maryland Stormwater Management Guidelines for State & Federal Projects"* (MDE 2010).

Andrews Plans and Protocols. In addition to the federal, state, and local regulations, Andrews implements its environmental programs through various plans and protocols (Table 2-3). All of these plans conform to requirements defined in federal regulations and guidance. Project managers would coordinate with Andrews 11th Civil Engineer Squadron/Asset Management Flight (11 CES/CEA) to ensure compliance with all local, state, and federal environmental regulations.

Table 2-3. Andrews Environmental Plans

Resource Area	Title	Date
Cultural Resources	Integrated Cultural Resources Management Plan	2009
Air Quality	Standby Emission Reduction Plan, 89 AW OPLAN 9539	2000
Noise, Land Use and Planning	Air Installation Compatible Use Zone (AICUZ) Study	2007
	General Plan Update for Andrews	2010
Asbestos	Asbestos Management Plan	2008
Lead-Based Paint	Lead-Based Paint Management Plan	2009

Table 2-3. Andrews Environmental Plans (Continued)

Resource Area	Title	Date
Hazardous Waste	Hazardous Waste Management Plan	2009
Environmental Emergencies	Facility Response Plan	2006
Hazardous Materials	Pollution Prevention Plan	2008
	Hazardous Materials Management Plan	2003
Natural Resources	Integrated Natural Resources Management Plan (AAFB 2007e)	2007
Stormwater	Stormwater Pollution Prevention Plan	2007
	Stormwater Survey and Management Plan	2004

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3.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 NOISE

3.1.1 Definition of the Resource

Noise is defined as any sound that is not desirable, because it interferes with communication or other normal activities or otherwise diminishes the quality of the environment. It may be intermittent or continuous, steady or impulsive. It may be stationary or transient. Stationary sources are normally related to specific land uses, e.g., roads, housing tracts, or industrial plants. Transient noise sources move through the environment, either along relatively established paths (e.g., highways, railroads, and aircraft flight tracks around airports), or randomly. The Region of Influence (ROI) for noise is the area around Andrews and associated geographically separated units (GSUs) that are exposed to elevated noise levels caused by aviation-related noise and other human activities in the region.

The unit used to measure the intensity of sound is the decibel (dB). The frequency of sound is measured in cycles per second, or hertz (Hz). This measurement reflects the number of times per second the air vibrates from the acoustic energy. Low frequency sounds are heard as rumbles or roars, and high frequency sounds are heard as screeches.

Sound measurement is further refined through the use of “A-weighting.” The normal human ear can detect sounds that range in frequency from about 20 Hz to 15,000 Hz. However, all sounds throughout this range are not detected the same. Therefore, through internal electronic circuitry, some sound meters are calibrated to emphasize frequencies in the 1,000 to 4,000 Hz range. The human ear is most sensitive to

frequencies in this range. Sounds measured with these instruments are termed "A-weighted" and are shown in terms of A-weighted decibels (dBA). All sound levels described in this EA are A-weighted. The most common metric for measuring noise is the Day-Night Average Sound Level (L_{dn}). L_{dn} sums the individual noise events and averages the resulting level over 24 hours. This metric adds 10 dB to those events that occur between 10:00 P.M. and 7:00 A.M. to account for the increased intrusiveness of noise events that occur at night when ambient noise levels are normally low.

3.1.2 Existing Conditions

The Prince George's County Planning Board under the Maryland-National Capital Park and Planning Commission is responsible for defining and enforcing land use compatibility throughout the county. The *Air Installation Compatible Use Zone* (AICUZ) *Study* for Andrews summarizes the noise environment on and around the installation. This document, last updated in 2007, guides local, regional, state, and federal officials in the areas neighboring the base by promoting compatible development within the AICUZ area of influence and protecting Air Force operational capability from the effects of land uses that are incompatible with aircraft operations.

Prince George's County has adopted standard zoning ordinances to guide and control development. Prince George's County zoning in the area of Andrews generally follows existing land use patterns, with the exception of Westphalia, which is a 6,000-acre commercial and residential community planned northeast of the installation. To accommodate this project, this area was rezoned to include mixed-use, low urban, high suburban, and retail commercial categories. The project also reserves significant open space and preservation areas. Areas immediately fronting the north end of the installation are zoned industrial. The industrial zoning continues north along the east

side of the Capital Beltway up to the Maryland Route 214 Central Avenue interchange. Areas to the east of the industrial corridor are zoned in a mix of residential and open/agricultural/low density with the exception of the Westphalia tract. Areas immediately to the east and southeast of the installation are zoned industrial. Zoning farther east is mostly residential with increasing amounts of open/agricultural/low density areas at a distance from the installation. Areas south of Andrews are mostly residential. Residential and commercial zoning is dominant directly west of the base. Some industrial zoning occurs along the Capital Beltway, while much of the Branch Avenue corridor is commercial.

3.1.2.1 Aircraft Activity

Andrews supports multiple missions, and units are equipped with a wide range of fighter, aerial refueling tanker, and transport aircraft, as well as helicopters. Under current conditions, Andrews supports approximately 314 daily aviation operations (AAFB 2007b). Considering all types of flight activities, a scenario representing an "average day's" operations was developed. The operations considered include arrivals (landings), departures (takeoffs), and closed patterns. Noise calculations consider the frequency of flight operations, runway utilization, and the flight tracks and flight profiles flown by each aircraft. The Air Force does not follow the Federal Aviation Administration's (FAA's) use of the "average annual day" in which annual operations are averaged over an entire 365-day year. Neither does the Air Force use the "worst-case day" since it typically does not represent the typical noise exposure. Instead, the Air Force uses the "average busy-day" concept, in which annual operations for an aircraft type are averaged over the number of flying days per year by that aircraft type. Non-flying days (e.g., weekends or holidays) are not used in computing the "average busy-

day" operations. Flying by Andrews flying units ranges from 104 to 260 days per year. Transient aircraft operations are based on 365 days per year (AAFB 2007b). The numbers and types of representative operations considered are shown in Table 3-1.

Table 3-1. Average Busy Day Operations at Andrews 2007

Aircraft Type	Daily Arrival/Departure Operations	Daily Closed Pattern Operations	Total Daily Operations
Andrews			
16 types	122.67	144.29	266.96
Transient Aircraft			
54 Types	47.45	0.00	47.45
Total	**170.12**	**144.29**	**314.41**

Notes: An operation is one takeoff/departure or one arrival/landing. A closed pattern consists of two operations, one takeoff, and one landing.
Source: AAFB 2007b

These levels and types of activity are then combined with information on climatology, maintenance activities, and aircraft flight parameters, and processed through the Air Force's BASEOPS/NOISEMAP (Moulton 1990) computer models to calculate L_{dn}. Once noise levels are calculated, they are plotted on a background map in 5-dB incremental contours from 65 dBA to 85 dBA, as applicable. This information is compiled into the AICUZ report. The AICUZ for Andrews was compiled in 1998, and the latest revision occurred in 2007. Noise modeling for this EA was based on information in the AICUZ completed in 2007. Noise contours associated with current activities at Andrews are shown in Figure 3-1. The land area (in acres) encompassed by each contour is shown in Table 3-2.

Table 3-2. Main Base Land Area Exposed to Indicated Sound Levels (On and Off-Installation)

L_{dn} Noise Zone	Acres of Land
65 – 69	5,008
70 – 74	2,187
75 – 79	701
80 +	394
Total	**8,290**

Source: AAFB 2007b

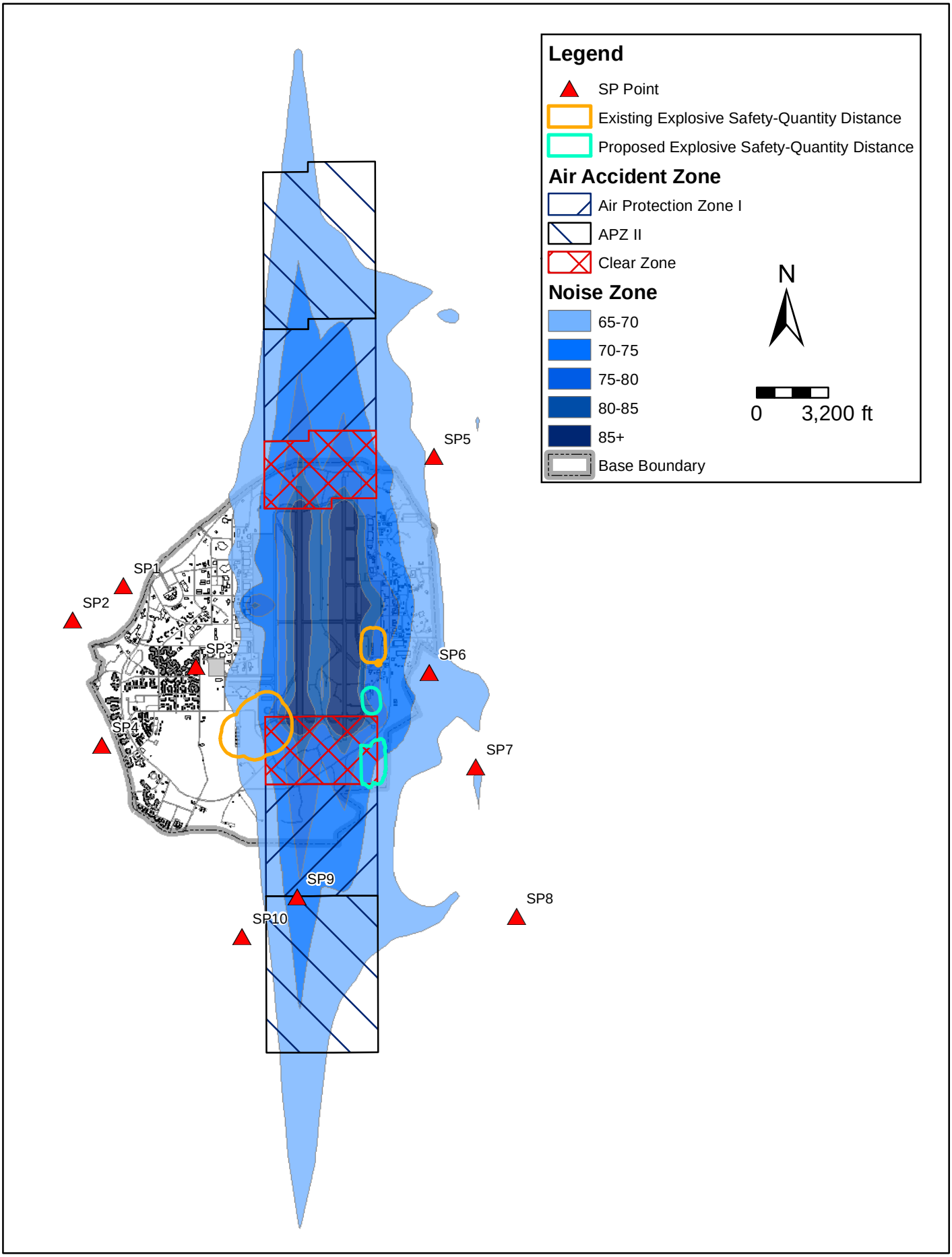

Figure 3-1. Joint Base Andrews–Naval Air Facility Noise Contours

W:\Andrews\Andrews TO 111\GIS\Maps\Figure 3-1 Noise Contours.mxd

Brandywine. Aircraft arrive at Brandywine from Andrews and return to the base using standardized flight tracks. 1st Helicopter Squadron aircrews fly 740 annual and 2.85 average busy day sorties at Brandywine, which has four landing zones (LZs). Sorties are flown 260 days per year, and about 21 percent of the sorties are at night (10:00 P.M. to 7:00 A.M.). Each aircraft is at Brandywine for about 30 minutes and accomplishes two to four closed patterns per sortie. In 2007, annual and average busy day closed pattern operations were 4,440 and 17.08 operations, respectively. Patterns are flown at 300 feet above ground level (AGL). Aircraft remain within one mile of the LZ when conducting operations. The elevations of the LZs range from 180 to 260 feet above mean sea level (MSL) (AAFB 2007b).

Table 3-3 shows the off-installation noise exposure within the L_{dn} 45 dB and greater noise exposure area for aircraft operations at Brandywine in terms of acreage (AAFB 2007b). Noise levels do not exceed 65 db at the Brandywine site.

Table 3-3. Brandywine Land Area Exposed to Indicated Sound Levels (Off-Installation)

L_{dn} Noise Zone	Acres of Land
45 – 49	1,364
50 – 54	630
55 – 59	0
60 +	0
Total	**1,994**

Source: AAFB 2007b

Davidsonville. Aircraft arrive at Davidsonville from Andrews and return to the base using standardized flight tracks.

1st Helicopter Squadron aircrews fly 977 annual and 3.76 average busy day sorties at Davidsonville, which has one LZ. Sorties are flown 260 days per year, and about 21

percent of the sorties are at night (10:00 P.M. to 7:00 A.M.). Each aircraft is at Davidsonville for about 30 minutes and accomplishes two to four closed patterns per sortie. Annual and average busy day closed pattern operations are 5,862 and 22.55 operations, respectively. Patterns are flown at 300 feet AGL. Aircraft remain within one mile of the LZ when conducting operations. The LZ is 122 feet above MSL (AAFB 2007b).

Table 3-4 shows the off-installation noise exposure within the L_{dn} 45 dB and greater noise exposure area for aircraft operations at Davidsonville in terms of acreage (AAFB 2007b). Noise levels do not exceed 65 db at Davidsonville.

Table 3-4. Davidsonville Land Area Exposed to Indicated Sound Levels (Off-Installation)

L_{dn} Noise Zone	Acres of Land
45 – 49	561
50 – 54	436
55 – 59	395
60 +	61
Total	**1,453**

Source: AAFB 2007b

3.1.2.2 Other Ground-Based Activity

Some additional noise results from day-to-day activities associated with operations, maintenance, and the industrial functions associated with the operation of Andrews and other commercial activities around the main installation. These noise sources include the operation of ground-support equipment and other transportation noise from vehicular traffic. However, this noise is generally during the day, localized in industrial areas on or near the airfield, or on established lines of communication supporting traffic to and from the airfield. Noise resulting from aircraft operations remains the dominant noise source in the airfield region.

3.2 AIR QUALITY

This section discusses air quality considerations and conditions in the area around Andrews in Prince George's County, Maryland. It also addresses air quality standards and describes current air quality conditions in the region.

3.2.1 Definition of the Resource

Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The levels of pollutants are generally expressed by concentration units of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$) determined over various periods of time (averaging periods).

Federal Air Quality Standards. The significance of a pollutant concentration in a region or geographical area is determined by comparing it to federal and/or state ambient air quality standards. Under the authority of the Clean Air Act (CAA), the USEPA has established nationwide air quality standards to protect public health and welfare, with an adequate margin of safety. These federal standards, known as the National Ambient Air Quality Standards (NAAQS), represent the maximum allowable atmospheric concentrations and were developed for seven criteria pollutants: ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter (PM) less than 10 micrometers in diameter (PM_{10}), particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). Short-term standards (1-hour, 8-hour, or 24-hour periods) were established for pollutants with acute health effects. The USEPA does not permit these standards to be exceeded more than once per year. Long-term standards (annual periods) were established for pollutants with chronic

health effects, and these standards may not be exceeded if a region is to maintain an attainment status.

Based on measured ambient criteria pollutant data, the USEPA designates areas of the United States as having air quality equal to or better than the NAAQS (attainment) or worse than the NAAQS (non-attainment). Upon achieving attainment, areas are considered to be in maintenance status for a period of 10 or more years. Areas are designated as unclassifiable for a pollutant when there is insufficient ambient air quality data for the USEPA to form a basis for attainment status. For the purpose of applying air quality regulations, unclassifiable areas are treated similar to areas that are in attainment of the NAAQS.

State Air Quality Standards. Under the CAA, state and local agencies may establish ambient air quality standards and regulations of their own, provided that these are at least as stringent as the federal requirements. For all criteria pollutants, Maryland has adopted the NAAQS. A summary of the NAAQS that apply to the proposed project area at Andrews is presented in Table 3-5.

Table 3-5. National Ambient Air Quality Standards

Air Pollutant	Averaging Time	NAAQS	
		Primary	Secondary
Carbon Monoxide (CO)	8-hour 1-hour	9 ppm 35 ppm	--- ---
Nitrogen Dioxide (NO_2)	AAM 24-hour	0.053 ppm ---	0.053 ppm ---
Sulfur Dioxide (SO_2)	AAM 24-hour 3-hour	0.030 ppm 0.14 ppm ---	--- --- 0.50 ppm
Particulate Matter Less than 10 Micrometers in Diameter (PM_{10})	AAM 24-hour	Revoked [(a)] 150 $\mu g/m^3$	Revoked [(a)] 150 $\mu g/m^3$

Table 3-5. National Ambient Air Quality Standards (Continued)

Air Pollutant	Averaging Time	NAAQS	
		Primary	Primary
Particulate Matter Less than 2.5 Micrometers in Diameter ($PM_{2.5}$)	AAM 24-hour	15 $\mu g/m^3$ 35 $\mu g/m^3$	15 $\mu g/m^3$ 35 $\mu g/m^3$
Ozone (O_3)	8-hour	0.08 ppm	0.08 ppm
Lead (Pb) and Lead Compounds	Calendar Quarter	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$

Notes: AAM = Annual Arithmetic Mean

(a) Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the USEPA revoked the annual PM_{10} standard in 2006 (effective December 17, 2006).

Source: USEPA 2007

State Implementation Plan. For non-attainment regions, the states are required to develop a State Implementation Plan (SIP) designed to eliminate or reduce the severity and number of NAAQS violations, with an underlying goal to bring state air quality conditions into (and maintain) compliance with the NAAQS by specific deadlines. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS in each state. Under the CAA Amendments of 1990, federal agencies are required to determine whether their undertakings are in conformance with the applicable SIP and demonstrate that their actions would not cause or contribute to a new violation of the NAAQS; increase the frequency or severity of any existing violation; or delay timely attainment of any standard, emission reduction, or milestone contained in the SIP.

Prevention of Significant Deterioration. Section 162 of the CAA further established the goal of prevention of significant deterioration (PSD) of air quality in all international parks; national parks that exceeded 6,000 acres; and national wilderness areas and memorial parks that exceeded 5,000 acres if these areas were in existence on August 7, 1977. These areas were defined as mandatory Class I areas, while all other attainment or unclassifiable areas were defined as Class II areas. Under CAA Section

164, states or tribal nations, in addition to the federal government, have the authority to redesignate certain areas as (non-mandatory) PSD Class I areas, (e.g., a national park or national wilderness area established after August 7, 1977, which exceeds 10,000 acres). PSD Class I areas are areas where any appreciable deterioration of air quality is considered significant. Class II areas are those where moderate, well-controlled growth could be permitted. Class III areas are those designated by the governor of a state as requiring less protection than Class II areas. No Class III areas have yet been designated. The PSD requirements affect construction of new major stationary sources in the PSD Class I, II, and III areas. According to CAA Section 165, a permit that has been subject to review and includes emission limitations must be issued prior to construction.

Visibility. CAA Section 169(a) established the additional goal of prevention of further visibility impairment in PSD Class I areas. Visibility impairment is defined as a reduction in the visual range and atmospheric discoloration. Determination of the significance of an activity on visibility in a PSD Class I area is typically associated with evaluation of stationary source contributions. The USEPA is implementing a Regional Haze rule for PSD Class I areas that will address contributions from mobile sources and pollution transported from other states or regions. Emission levels are used to qualitatively assess potential impairment to visibility in PSD Class I areas. Decreased visibility could potentially result from elevated concentrations of PM_{10} and SO_2 in the lower atmosphere.

General Conformity. CAA Section 176(c), General Conformity, established certain statutory requirements for federal agencies with proposed federal activities to

demonstrate conformity of the proposed activities with each state's SIP for attainment of the NAAQS. Federal activities must not:

(a) cause or contribute to any new violation;

(b) increase the frequency or severity of any existing violation; or

(c) delay timely attainment of any standard, interim emission reductions, or milestones in conformity to a SIP's purpose of eliminating or reducing the severity and number of NAAQS violations or achieving attainment of NAAQS.

(d) General conformity applies only to nonattainment and maintenance areas. If the emissions from a federal action proposed in a nonattainment area exceed annual thresholds identified in the rule, a conformity determination is required for that action. A conformity determination would require an extensive analysis to demonstrate how an action would conform to the applicable SIP. The thresholds become more restrictive as the severity of the nonattainment status of the region increases.

Stationary Source Operating Permits. The Air and Radiation Management Administration, Maryland Department of the Environment, regulates air management permits for stationary air pollution sources in the State of Maryland (COMAR 26.11). Air quality permits must be obtained for new or modified sources. Title V of the CAA Amendments of 1990 requires states to issue Federal Operating Permits for major stationary sources. The major source threshold for Title V applicability for volatile organic compounds (VOCs) or nitrogen oxides (NO_x) (both of which are atmospheric precursors to the formation of O_3) in Prince George's County, MD (moderate nonattainment area for 8-hour ozone) is 25 tons per year (TPY). Other thresholds

include 100 TPY of any other criteria air pollutant, 10 TPY of a hazardous air pollutant, or 25 TPY of any combination of hazardous air pollutants. The purpose of the permitting rule is to establish regulatory control over large, industrial activities and to monitor their impact upon air quality.

3.2.2 Existing Conditions

Regional Air Quality. Federal regulations in 40 CFR 81 (*Designation of Areas for Air Quality Planning Purposes*) delineate certain air quality control regions (AQCRs), which were originally designated based on population and topographic criteria closely approximating each air basin. The potential influence of emissions on regional air quality would typically be confined to the air basin in which the emissions occur. Therefore, the ROI for the Proposed Action is the National Capital AQCR (AQCR 47), which includes Prince George's and Montgomery Counties in Maryland, and Arlington, Fairfax, Loudoun, and Prince William Counties in Virginia (USEPA 2007).

Attainment Status. A review of the federally published attainment status for Prince George's County in 40 CFR 81.321 indicated that this region is designated as moderate nonattainment for the 8-hour O_3 standard, and attainment (i.e., meeting national standards) for all other criteria pollutants, including CO, NO_2, SO_2, PM_{10}, and Pb (USAF 2006a). The Washington, D.C., metropolitan area is in nonattainment of the 1997 $PM_{2.5}$ NAAQS.

PSD Class I Areas. No mandatory PSD Class I areas are designated for the State of Maryland. The nearest PSD Class I areas are the Shenandoah National Park, approximately 88 miles southwest of Andrews; the Dolly Sods Wilderness in West

Virginia, approximately 133 miles southwest of the base; and the Brigantine Wilderness in New Jersey, approximately 140 miles to the north of the base.

Climate. The humid subtropical climate at Andrews is influenced by an easterly airflow that produces frequent successions of high and low pressure systems. Summers are warm and humid, with frequent thunderstorms; winters are cool with surges of cold, dry continental air from the north that can produce moderate to heavy snowfall. The average annual temperature is 56 degrees Fahrenheit (°F). Monthly mean temperatures range from 34°F in January to 77°F in July. Mean annual precipitation is about 42 inches. Rainfall is well distributed throughout the year, with summer being the wettest season and winter the driest. An average of 38 thunderstorms occurs annually. The average winter snowfall is 22 inches per year, with the majority of the snow occurring in January. Average relative humidity is 56 percent, with highest humidity occurring in early mornings. Mean cloud cover is 53 percent during summer and 61 percent during winter. On average, some fog is encountered 164 days per year at Andrews. Wind speed at the base averages 6 knots, generally coming from the northwest during fall and from the southwest during spring and summer. The region is occasionally affected by strong coastal low-pressure systems, including nor'easters and hurricanes (AAFB 2009c).

Current Emissions. Air emissions at Andrews from stationary sources include those from boilers/heaters, gasoline storage and dispensing operations, paint spray booths, emergency generators, abrasive blasting, and off-aircraft jet engine testing. In the following table, particulate matter is equivalent to total suspended particulates and includes PM_{10} as a component of the total; NO_x includes NO_2 and other nitrogen compounds; and sulfur oxides (SO_x) include SO_2 and other sulfur compounds. Because

VOCs and NO_x are precursors to the formation of O_3 in the atmosphere, control of these pollutants is the primary method of reducing O_3 concentrations in the atmosphere. Table 3-6 provides summaries of a stationary source emissions inventory conducted for calendar year 2009 and a mobile emissions inventory conducted for calendar year 2002 (USAF 2010c, USAF 2005b).

Table 3-6. Baseline Emissions at Andrews, Calendar Years 2002 and 2009

	Annual Emissions (Tons Per Year)				
	CO	***VOC***	***NO_x***	***SO_x***	***PM_{10}***
Stationary Sources[1]	6.34	2.02	11.24	0.29	0.62
Mobile Sources[2]	2,128	527	650	41	107

1) Source: USAF 2010c, Attachment 2
2) Source: USAF 2005b, Table S-1

Regional Air Emissions. The previous section lists on-base emissions for Andrews. The NEPA process, however, must also consider impacts from mobile sources and indirect emissions related to the project, some of which (for example, commuting of new employees to and from the facility) occur outside of the installation. Table 3-7 lists county-wide emissions for Prince George's County as compiled by the USEPA in its National Emissions Inventory (NEI), which was last updated in 2002 (USEPA 2006). The 2002 NEI contains estimates of annual emissions for stationary and mobile sources of air pollutants in each county.

Table 3-7. Air Emissions Inventory Prince George's County, Maryland, Calendar Year 2002

	Pollutants (Tons Per Year)					
	CO	**VOC**	**NO_x**	**SO_2**	**$PM_{2.5}$**	**PM_{10}**
Stationary Sources	16,606	13,490	17,497	55,146	6,827	12,602
Mobile Sources	200,338	13,902	21,527	943	622	891

Source: USEPA 2006

3.3 SAFETY AND OCCUPATIONAL HEALTH

3.3.1 Definition of the Resource

Potential safety issues at Andrews include ground and AT/FP, explosive, flight, and construction jobsite safety associated with activities conducted by Andrews. The Andrews General Plan contains sections that specifically describe safety and security requirements that have been implemented for various areas of the installation. General security and safety requirements will be incorporated into all future projects. Ground safety considers issues associated with human activities and operations and maintenance (O&M) activities that support unit operations. A specific aspect of ground safety addresses AT/FP considerations. Explosive safety addresses the management and use of ordnance or munitions associated with installation operations and training activities. Flight safety considers aircraft flight risks such as aircraft accidents. Construction jobsite safety considerations include the prevention of mishaps related to construction and demolition projects. The ROI for safety is Andrews, the associated GSUs and the areas immediately adjacent to the installation and GSUs.

3.3.2 Existing Conditions

Day-to-day O&M activities conducted at Andrews are performed in accordance with applicable Air Force safety regulations, published Air Force Technical Orders, and standards prescribed by Air Force Occupational Safety and Health requirements.

Additionally, the DoD and the Air Force have developed force protection guidelines for military installations as a result of terrorist activities. The *DoD Minimum Antiterrorism Standards for Buildings* (UFC 4-010-01) addresses access to facilities on the installation, facility siting, exterior design, interior infrastructure design, and landscaping. The *USAF Installation Force Protection Guide* provides general guidance on force

protection issues. The purpose of these documents is to improve security, minimize fatalities, and limit damage to facilities in the event of a terrorist attack.

Due to the wide variety of missions performed by units at Andrews, the General Plan describes several restricted use areas for the storage and handling of explosive materials. Air Force Manual 91-201, *Explosives Safety Standards*, defines distances to be maintained between explosive storage areas and other types of facilities. These distances are known as explosive safety-quantity distance (ESQD) arcs, and the size of the ESQD arc is dependent on the type and quantity of explosive materials that are being stored. Andrews has three primary ESQD arcs (Figure 3-2). The hot cargo pad is located on the southwest corner of the airfield, and the ESQD arc surrounding the hot cargo pad has a radius of 1,250 feet. The munitions storage bunkers are located west of the hot cargo pad and have an ESQD arc radius of 1,250 feet. The 113 WG's F-16 alert aircraft are parked on the southern portion of the east apron and have an ESQD arc radius of 792 feet from the outer wing tip of each parked aircraft. Development or construction is prohibited within ESQD arcs to maintain personnel safety and minimize damage potential to other facilities. The eight munitions storage bunkers located west of the hot cargo pad are scheduled to be relocated to the southeast corner of the base.

In addition to the ESQD arcs, there is a range surface danger zone associated with the Combat Arms Training facility located in the southeast portion of the base. The surface danger zone extends 900 feet to the south of the range's target line.

The main base at Andrews has several operational constraints associated with the airfield regarding safety for the base and adjacent communities. These constraints are described in the Andrews AICUZ and are referenced in the *Airfield and Helipad*

Planning and Design (UFC 3-260-01) and Air Force Handbook 32-7084 AICUZ Program Managers Guide. The areas of operational constraint would be the clear zone, accident potential zone (APZ) I, and APZ II. The clear zone extends 3,000 feet from the end of the runway and 1,500 feet on either side of the runway centerline. APZ I extends 5,000 feet from the end of the clear zone. APZ II extends this area an additional 7,000 feet (Figure 3-2). Permissible uses, structure heights, and the construction material in these areas are specifically prescribed in order to protect both the safety of the aircrews and the safety of persons and property on the surface. Prince George's County has zoning-based initiatives in place that control building heights and development density under the flight paths of Andrews. The county's zoning ordinance allows industrial development on property that is adjacent to the base and under the flight paths, but limits both building height and nighttime occupancy on lands throughout the county (AAFB 2010).

Bird-aircraft strikes are a major safety concern due to the potential for damage to aircraft or injury to aircrews or local populations if an aircraft crash should occur in a populated area. Andrews is an area of high bird-aircraft strike hazard (BASH) potential, as the base is located in the Atlantic flyway near several wildlife refuges. The *Bird/Wildlife Aircraft Strike Hazard Plan* provides guidance to minimize wildlife-aircraft strikes (AAFB 2006). The deer population on and adjacent to Andrews is also a hazard to flight safety. Deer behavior on-base strongly suggests that the deer have become accustomed to aircraft, support equipment, and human activity around the airfield.

Construction jobsite safety and the prevention of accidents is an ongoing activity for any Air Force jobsite. All contractors performing construction activities are responsible for complying with Air Force safety and Occupational Safety and Health Administration

(OSHA) regulations, and are required to conduct construction activities in a manner that does not pose any undue risk to workers or personnel. Industrial hygiene programs address exposure to HAZMAT, use of personal protective equipment (PPE), and use and availability of Material Safety Data Sheets. Industrial hygiene is the responsibility of contractors, as applicable. Contractor responsibilities are to review potentially hazardous workplaces; to monitor exposure to workplace chemical (e.g., asbestos, lead, HAZMAT), physical (e.g., noise propagation), and biological (e.g., infectious waste) agents; to recommend and evaluate controls (e.g., ventilation, respirators); to ensure personnel are properly protected or unexposed; and to ensure a medical surveillance program is in place to perform occupational health physicals for those workers subject to any accidental chemical exposures or engaged in hazardous waste work.

3.4 EARTH RESOURCES

3.4.1 Definition of the Resource

Earth resources include topography, geology, and soils. Geologic resources of an area typically consist of surface and subsurface materials and their inherent properties. The term “soils” refers to unconsolidated materials formed from the underlying bedrock or other parent material. Soils play a critical role in both the natural and human environment. Soil drainage, texture, strength, shrink/swell potential, consistency, and erodibility all determine the suitability of the ground to support man-made structures and facilities. These resources could have scientific, historical, economic, and recreational value.

The ROI for earth resources in this EA includes Andrews and the associated GSUs. The geologic and topographic descriptions for the project site are general to the entire base and surrounding region, while the soils discussion is site specific.

3.4.2 Existing Conditions

Geology. The Coastal Plain of southern Maryland, on which Andrews and the GSUs are located, is comprised of unconsolidated sedimentary geologic units that range from the Quaternary (1.5 million years ago to present day) to Cretaceous (144 to 65 million years ago) Periods in age. These geologic units are made of unconsolidated sand, gravel, silt, clay, marl, glauconite, and organic materials that overlay crystallized Precambrian and early Paleozoic age bedrock. Although these units are similar, differences include variations in mineralogy, color, fossil content, and the micro- and macro-structure (USDA NRCS 1968; AAFB 2009c).

The surficial geology of the installation and the GSUs is primarily comprised of upland deposits of the late Tertiary Period Pliocene (approximately 7 million years old). These upland deposits range in thickness from 10 to 20 feet and include irregularly bedded cobbles, gravel, and fine sand that are mixed with silt and clay. In areas where streams have cut deeply into the upland deposits, the underlying Calvert formation can be seen. The Calvert formation developed during the Miocene Epoch (about 19 million years ago) and comprises a mixture of sands, silts, clays, and shell beds. Surface formations in this area have largely been previously disturbed by grading activities in support of facility construction (USDA NRCS 1968; AAFB 2009c).

Soils. Due to the considerable amount of development over the years at Andrews and the GSUs, most of the naturally occurring soils are no longer present or identifiable.

Approximately 50 percent of the soils are categorized as Udorthents, which is land that is altered by disturbance to the extent that the original soil series cannot be identified. Much of the originally occurring soil, particularly in and around the runways and taxiways, has been disturbed by cut and fill, with some areas having 20 or more feet of fill material. Only about 10 percent of the base, primarily along the perimeter and areas of the golf course, is considered to be undisturbed. The two dominant, naturally occurring soil associations on-base are the Sassafras-Croom and the Beltsville-Leonardtown-Chillum associations (USDA NRCS 1968; AAFB 2009c).

The Sassafras-Croom association is located adjacent to drainages associated with Tinkers and Piscataway creeks. This association is comprised of gently sloping to steep, well-drained, and primarily gravelly soils with a compact substratum. Its composition is approximately 30 percent Sassafras soils, 25 percent Croom soils, and 45 percent minor soils. These soils support general farming and residential development in other areas of Prince George's County (USDA NRCS 1968; AAFB 2009c).

Potential building constraints associated with naturally occurring on-base soils include several soil types that are somewhat to very limited with regard to the depth to saturation zone, flooding, shrink/swell potential, and steep slopes (USDA NRCS 1968).

Topography. Andrews is located on the western side of the middle Atlantic Coastal Plain Physiographic Province, which is comprised primarily of unconsolidated substrata. The fall line between the Atlantic Coastal Plain and the Piedmont is located about 12 miles west of the base. The region is generally level to gently sloping, with local relief of less than 100 feet except in association with moderately steep to steep stream banks.

Located on a plateau between the Anacostia River and the Patuxent River, surface elevations at the base range from about 215 feet above MSL to 281 feet above MSL (AAFB 2009c).

3.5 WATER RESOURCES

3.5.1 Definition of the Resource

Water resources analyzed in this EA include surface water and groundwater quantity, quality, and rate of flow. Surface water resources include lakes, rivers, and streams and are important for a variety of reasons, including economic, ecological, recreational, and human health. Groundwater includes the subsurface hydrologic resources of the physical environment and is an essential resource in some regions. Groundwater properties are often described in terms of depth to aquifer or water table, water quality, and surrounding geologic composition.

Other issues relevant to water resources include the downstream water and watershed areas affected by existing and potential runoff and hazards associated with 100-year floodplains. Floodplains are defined by Executive Order (EO) 11988, *Floodplain Management*, as “the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, the area subject to a one percent or greater chance of flooding in any given year” (that area inundated by a 100-year flood). Floodplain values include natural attenuation of floods, water quality maintenance, and groundwater recharge, as well as habitat for many plant and animal species. The ROI for water resources in this EA includes Andrews.

3.5.2 Existing Conditions

Surface Water. The main base portion of Andrews is located within portions of the Potomac River and the Patuxent River watersheds. The uplands that characterize the topography of the main base create a watershed divide, with the western portion of the base generally draining to the Potomac River and the northeastern portion generally draining to the Patuxent River, which is located approximately seven miles east of the base. Most of the base is located within the Potomac River watershed, which drains to the Potomac River, located about four miles west of the base. Several streams that are fed by a shallow, unconfined surface aquifer originate on or near Andrews. Piscataway Creek, a tributary of the tidal Potomac River, originates within the southeastern corner of the base. Tinkers Creek, an intermediate order tributary of Piscataway Creek, also originates in the southeastern portion of the base. Additionally, Meetinghouse Branch and Paynes Branch originate in the southwestern quadrant of the base and flow toward the west, eventually flowing into the Potomac River. Cabin Creek and the Charles Branch originate in the northeastern quadrant of the base and drain toward the east to Western Branch, which eventually flows into the Patuxent River (AAFB 2009c; AAFB 2007c). Surface water features at Andrews also include the 16.9-acre Base Lake and five smaller ponds (AAFB 2007c).

Stormwater at the base is conveyed through oil/water separators and storm lines within industrial areas of Andrews and through swales and ditches in other areas of the base. All surface runoff is ultimately conveyed to a network of primarily underground culverts and is discharged from eight major storm drain outfalls. Stormwater is eventually discharged into Henson Creek, Meetinghouse Branch, and Payne Branch to the west; Cabin Creek and Charles Branch to the east; and Piscataway Creek to the southeast.

Each of these streams ultimately flows into either the Potomac or Patuxent Rivers (AAFB 2009c).

To manage on-installation stormwater runoff and protect the quality of surface water on and in the vicinity of the installation, the base has obtained coverage under two general National Pollutant Discharge Elimination System (NPDES) permits: (1) *Multi-Sector General Permit (MSGP) for Storm Water Associated with Industrial Activities;* and (2) *NPDES General Permit for Storm Water Discharges from State and Federal Small Municipal Separate Storm Sewer Systems (MS4).* These two permits do not cover stormwater runoff during construction activities. In order to comply with the requirements of these permits, Andrews has prepared and implemented a Stormwater Pollution Prevention Plan (SWPPP) that includes water quality monitoring requirements and Best Management Practices (BMPs) to minimize the potential for contaminants to reach nearby surface waters (AAFB 2007c).

The Brandywine Receiver Station is located in the Mattowoman Creek Watershed. Drainages at the Brandywine Receiver Station consist of natural surface water drainages, which flow into Mattawoman Creek. The Davidsonville Transmitter Site is located within the Patuxent and Roper's Branch watersheds. Surface water drainage at this site also consists of natural drainages, which eventually flow into the Patuxent River and Roper's Branch.

Groundwater. Andrews is located within a portion of the Maryland Coastal Plain that includes several important regional water supply aquifers. These aquifers are located several hundred feet below ground surface (bgs), and include, in order of descending stratigraphic sequence: the Aquia, Magothy, Patapsco, and Patuxent formations. The Aquia formation, located at a depth of 150 feet bgs, is a primary source of groundwater

for Prince George's, Anne Arundel, Charles, and St. Mary's Counties, and is primarily recharged by infiltration in an area northwest of the main base at Andrews. The Patapsco and Patuxent formations are important regional aquifers that provide groundwater for Prince George's, Anne Arundel, and Charles Counties. MDE regulates the withdrawal of any water from surface or ground water through a Water Appropriation Permit. Withdrawals that exceed 10,000 gallons per day on an annualized basis required a semi-annual report from the user. There are two non-potable water supply wells on the golf course at the main base. One of the wells was completed in the Magothy Formation at a depth of about 385 feet bgs, while the second well was completed in the Patapsco Formation at a depth of about 650 feet bgs (ANG 2005). There is also one water supply well each at the Brandywine and Davidsonville sites. Semi-annual reports are generated for the golf course sources but not required at Brandywine and Davidsonville, because the withdrawal are less than 10,000 gallons per day on an annual basis.

Groundwater underlying the main base occurs at or near the ground surface, with shallow groundwater occurring at depths of less than 20 feet bgs, likely under unconfined conditions. Groundwater recharge occurs primarily through precipitation. Groundwater flow is believed to be down-gradient toward local streams or downward toward deeper underlying aquifers (AAFB 2009c). Similar groundwater conditions exist at the Brandywine and Davidsonville sites.

Floodplains. The Federal Emergency Management Agency (FEMA) has not developed Flood Insurance Rate Maps for Andrews. Consequently, there are no designated 100-year or 50-year floodplains at the base. In 2005, Andrews completed a floodplain study to determine the locations of floodplains on the base (89 AW 2005). This analysis

indicated that there are seven floodplains located within the boundaries of the main base. The floodplains are generally limited to small streams and the area immediately adjacent to these streams (Figure 3-2). FEMA flood data is available for the Brandywine and Davidsonville sites. These maps indicate there is a FEMA 100-year floodplain delineated along the major north/south drainageway at the Brandywine Receiver Station.

3.6 INFRASTRUCTURE/UTILITIES

3.6.1 Definition of the Resource

Infrastructure refers to the system of public works, such as transportation and utilities, that provides the underlying framework for a community. Transportation refers to roadway systems, mass transit, the movement or circulation of vehicles, and airfield pavement and lighting systems. Utilities include such amenities as water, power supply, and stormwater management. The infrastructure components to be discussed in this section include transportation, airfield, sanitary sewer, potable water, stormwater drainage, natural gas, electricity, heating/cooling, and liquid fuels. The infrastructure information was obtained from the *General Plan Update, Joint Base Andrews-NAF, Washington, Maryland* (AAFB 2010), *Andrews Air Force Base Strategic Plan* (USAF 2005c), and the various infrastructure management plans. The ROI for this resource consists of Andrews and the interface between the base and the surrounding area.

3.6.2 Existing Conditions

Transportation and Roadways. Andrews is located immediately southeast of the Capital Beltway (I-95/I-495), which carries traffic around Washington, D.C. State Routes 4 and 5 connect Andrews with Washington, D.C. (Figure 1-1). The closest stop for the

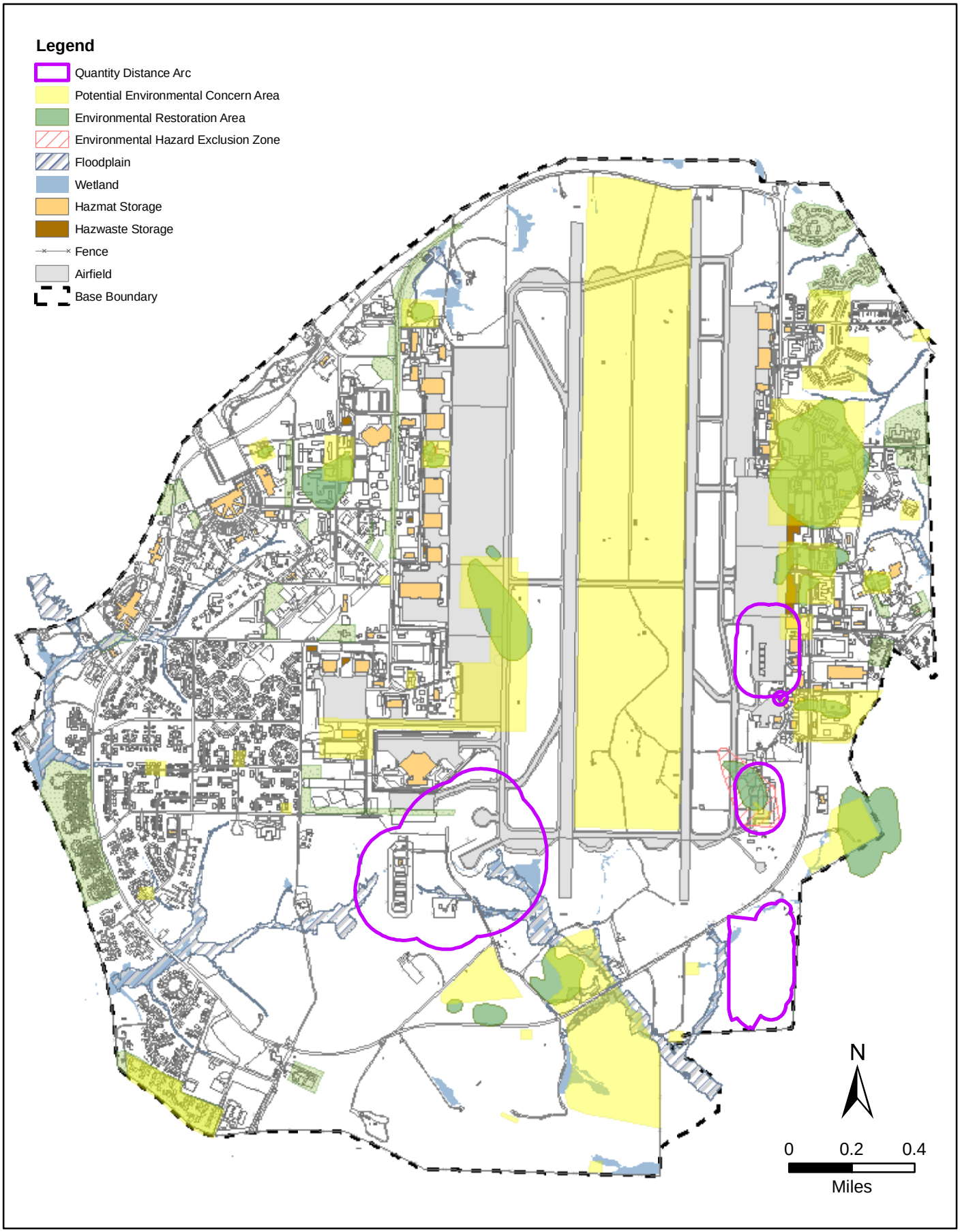

Figure 3-2. Joint Base Andrews–Naval Air Facility Potential Constraints

W:\Andrews\Andrews TO 111\GIS\Maps\Figure 3-2 Andrews AFB Constraints.mxd

area's rapid transit (Metrorail) is located approximately 1.3 miles from the base at the Branch Avenue station. Local bus service is available at the Main Gate and Virginia Gate.

Six gates provide varying degrees of access to and from Andrews. These include the Main, Pearl Harbor, Virginia, North, Maryland, and West Gates. The primary access for the base is provided through the Main Gate. This gate is open 24 hours and is available for use by government employees, residents, and visitors. The Pearl Harbor Gate provides access for construction vehicles and contractors. The Virginia and North Gates provide access for government employees and base residents during restricted hours. The Maryland Gate is restricted for use to visiting dignitaries or other DVs. The West Gate is not currently open to traffic, but may be utilized as a pedestrian gate in the future. Andrews has approximately 101 miles of paved roads. The overall pavement condition for on-base roads and parking lots is adequate, and the majority of the paved surfaces are in good condition. Perimeter Road is the only primary roadway connecting the two sides of the base. This two-lane undivided road makes an 8.4-mile loop around the base. The roadway network has three signalized intersections. The first traffic signal is located at the corner of Patrick Avenue and North Perimeter Road. Vehicles entering the North Gate pass through this flashing traffic signal. The second traffic signal is located at Virginia Avenue and South Perimeter Road. Traffic during peak flow hours is heaviest at this intersection due to the limited number of egress points on base. The third traffic signal is located at Alabama Avenue and Perimeter Road. The transportation system was rated adequate. In 2009, Andrews conducted a *Transportation Management Plan* (TMP) (USAF 2009a), which focused primarily on intersections and roadway corridors, proposed short-term and long-term transportation improvements to

improve traffic flow and roadway safety. The purpose of this plan was to assess vehicular and pedestrian travel, parking conditions, and transit services, and to identify transportation needs for the future addition of personnel associated with the BRAC.

Airfield Pavement and Lighting. The airfield pavement system consists of runways, taxiways, ramps, and shoulders. Andrews has two complete runway systems located in a north/south orientation. On the west side, Runway 01L/19R is 9,300 feet long with 1,000-foot overruns on each end. There are five taxiways connecting the runway to the parallel taxiway. The west apron provides parking for the 1st Helicopter Squadron, transient aircraft, partner units, and the 89 AW. On the east side, Runway 01R/19L is 9,755 feet long with 1,000-foot overruns on each end. Seven taxiways connect the runway to the parallel taxiway and a warm-up pad on the north end. The east apron provides parking for the Air Force Reserve, Navy, Marine Air Group, and the ANG. According to the *Andrews Natural Infrastructure Assessment Report* (AAFB 2007d), the airfield pavement system was rated as degraded. Repairs have restored the east runway pavement to good condition. Total replacement of the west runway, which is more than 40 years old and has exceeded a design life of 25 years, is currently under construction.

The airfield lighting at Andrews consists of runway lighting, taxiway lighting, and alignment approach lighting systems. Both of its runways have an Approach Lighting System with Sequenced Flashing Lights. Both runways also have precision approach path indicator and distance-to-go markers, which are numbers that denote the runway distance remaining in thousands of feet.

Electricity to the lighting system is supplied through underground lines from the airfield lighting vault. The airfield lighting control system was replaced in 2003 with a current state-of-the-art control system. A new building was also built in 2010 to house two new emergency generators for airfield lighting.

The airfield lighting system was rated as degraded; however, the upgrade of the airfield lighting control system improved its condition. Improvements to the lighting system on the east runway began in 2009. The west runway has similar rehabilitation needs and planned improvements. During the rehabilitation of the west and east runways, the airfield lighting system will be refurbished as necessary (AAFB 2010).

Sanitary Sewer. The sanitary sewer system consists of sewer lines, lift stations, and sewer metering vaults that transmit off-base wastewater to wastewater treatment plants that are owned and operated by the Washington Suburban Sanitary Commission (WSSC). Now privatized and operated by Terrapin Utility Services, Inc., the sanitary sewer system on base is approximately 60 years old and contains more than 33 miles of sewer line with more than 1,000 manholes. The sanitary sewer pipes are constructed of asbestos cement, concrete, clay tile, and poly-vinyl chloride (PVC). The overall condition of the sanitary sewer system is unsatisfactory, as old and deteriorated pipes and manholes allow stormwater and groundwater to infiltrate the sanitary sewer system, and the majority of sanitary sewer lift stations are in poor condition. Terrapin Utility has begun to rehabilitate or replace the entire wastewater collection system. Approximately 15,600 feet of sewer pipe and 64 manholes have been rehabilitated using a cure-in-place pipe lining, and approximately 10,000 feet of sewage force main has been replaced.

Oil/water separators improve the quality of wastewater discharges from industrial areas. Andrews has approximately 49 active oil/water separators.

WSSC regulates industrial wastewater through the WSSC Plumbing & Gas Code. Andrews is identified as a non-categorical Significant Industrial User, as defined under the Clean Water Act. As such, WSSC has issued a Discharge Authorization Permit (DAP) that regulates the type, amount, and quality of wastewater that flows into the WSSC system. DAP compliance is measured at the two sewer metering vaults (SMVs) through quarterly sampling and monitoring for a variety of constituents. The SMVs collect wastewater from domestic, business, and industrial users; however, the collection system is intertwined, and each source is indistinguishable at the SMVs; therefore, sampling and monitoring analyzes the wastewater from all sources on base, not just industrial sources.

Potable Water. The WSSC supplies treated water through three connections to Andrews through Terrapin Utility Services, Inc. The distribution system has more than 100 miles of water line approximately 60 years old. Brown water caused by the development of rust on the interior wall of iron pipes, also known as tuberculation, has been detected throughout the base.

There are three elevated water storage tanks located around the perimeter of the base. These towers are not being used with the current base water supply system. A 500,000-gallon storage tank and a 250,000-gallon storage tank have been inactive since 1993. The third elevated storage tank is a 3,000,000-gallon tank owned by WSSC that is not connected to the on-base water supply. The water supply and treatment provided by WSSC are adequate for all current and industrial uses. Pressures throughout the base

typically range from 60 to 70 pounds per square inch (psi); however, the distribution system for the water supply is not adequate. As the old and deteriorated water pipes cause water main failures and tuberculation, and because the required water storage capacity has not been met, the water system was rated unsatisfactory in 2002. Terrapin Utility has begun to replace all of the pipes throughout the base. Phase IA replaced approximately 8,700 feet of 16-inch diameter water main. Phase IB replaced 2,400 feet of 16-inch-, 2,900 feet of 12-inch-, and 1,850 feet of 8-inch-diameter water main. Other phases of the water line replacement project have not been funded. Until these projects are funded and completed, unimproved water mains would be flushed periodically to remove corrosive sediment (AAFB 2010).

Stormwater Drainage. Andrews' stormwater drainage system consists of catch basins, culverts, underground storm sewer pipes, and ditches that discharge rain water into Piscataway Creek and tributaries to Tinkers Creek, Henson Creek, Cabin Branch, and Charles Branch. These creeks eventually flow into either the Potomac or the Patuxent Rivers. The majority of stormwater leaving the base ultimately flows into the Potomac River (AAFB 2004).

Although the capacity of the stormwater drainage system is adequate for the collection and disposal of stormwater into the existing infrastructure and natural drainages, the flat terrain and shallow storm sewer lines cause isolated ponding during low-intensity rainfalls. Therefore, the stormwater drainage system was rated as degraded. An infrastructure assessment in 2004 (AAFB 2004) identified seven areas dispersed throughout the base with a high level of concern for failing drainage structures (AAFB 2004). The storm drainage system located between the east runway and its parallel

taxiway is deteriorating due to soil infiltration. Structural failure has occurred at the inlets and pipe joints (AAFB 2010).

Natural Gas. The Washington Gas Light (WGL) Company supplies natural gas to Andrews through a total of seven connection points. The natural gas distribution system is approximately 21 years old and 10 miles in length. Pipe material consists of polyethylene. The natural gas distribution system was rated as adequate. The WGL Company is responsible for the installation and maintenance of the natural gas distribution system at Andrews (AAFB 2003).

Electricity. The Potomac Electric Power Company (PEPCO) provides electrical power to Andrews. Two off-base electrical feeders tie directly into the main substation on Andrews. From this substation, which is owned and operated by the Air Force, a total of 20 primary feeder circuits distribute electricity to the rest of the base. The distribution system is a combination of both overhead and underground power lines, although 90 percent of the overhead power lines have been placed underground. The electric power distribution within the housing area is privatized. The remainder of the electric power distribution system on base is owned, operated, and maintained by the base.

Heating and Cooling. The Andrews heating and cooling system has been decentralized and no longer includes central heating plants. The base is currently working to remove the underground steam pits. The current boiler inventory includes more than 300 oil-fired and natural gas boilers. Currently, approximately 95 percent of the boilers run on natural gas and the remaining 5 percent on oil.

Separate large chill water plants and cooling towers serve the 11 WG HQ at Buildings 1413, 1414, 1220, 1245, and 1535.

The base is also working toward building automation on the Siemens platform. The building automation system allows for remote control of different systems in a building, including heating and cooling. Currently, 60 percent of the buildings on base are now automated.

The overall assessment of the heating and cooling system is fair. Eighty percent of the system is new and in good condition, while the remaining 20 percent is in mediocre to poor condition. The utility as a whole is lacking in general maintenance and upkeep as a result of insufficient manpower (AAFB 2010).

Liquid Fuels. Liquid fuel flows into Andrews through a commercial pipeline to a commercial storage farm consisting of three contractor-owned fuel tanks on the east side of the airfield. Fuel is then transported to the base's bulk storage farm located immediately west of the commercial storage farm.

Andrews has two fuel service stations for government-owned vehicles, a third fuel station for aircraft ground equipment, a fourth service station for eligible privately owned vehicles (POVs), 131 above ground storage tanks (ASTs), 30 underground storage tanks (USTs), and two independent de-icing fluid tanks. Although some parts of the liquid fuels system are degraded (e.g., deteriorated pipelines), the overall liquid fuels system was rated as adequate (AAFB 2010).

3.7 HAZARDOUS MATERIALS AND WASTES

3.7.1 Definition of the Resource

This section describes the affected environment associated with HAZMAT and petroleum products, hazardous and petroleum wastes, Environmental Restoration

Program (ERP) sites, and solid waste at any of the sites planned for development as part of the Proposed Action.

The terms “hazardous materials” and “hazardous waste” refer to substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA). In general, HAZMAT include substances which, because of their quantity; concentration; or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment. Hazardous wastes that are regulated under RCRA are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either exhibit one or more of the hazardous characteristics of ignitability, corrosivity, toxicity, or reactivity, or are listed as a hazardous waste under 40 CFR Part 261. Petroleum products include petroleum-based fuels, oils, and their wastes. The ERP is an Air Force program to identify, characterize, and remediate environmental contamination from past activities at Air Force installations.

Issues associated with HAZMAT and wastes typically center on waste streams; USTs; ASTs; and the storage, transport, use, and disposal of pesticides, fuels, lubricants, and other industrial substances. When such materials are improperly used in any way, they can threaten the health and well-being of wildlife species, habitats, and soil and water systems, as well as humans. This section also considers solid waste.

The management of HAZMAT and hazardous wastes is governed by specific environmental statutes. The key regulatory requirements include:

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 USC 9601–9675,) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. CERCLA/SARA regulates the prevention, control, and compensation of environmental pollution.

Community Environmental Response Facilitation Act of 1992 (42 USC 9620). This act amended CERCLA to require that, prior to termination of federal activities on any real property owned by the federal government, agencies must identify real property where hazardous substances were stored, released, or disposed.

Emergency Planning and Community Right-to-Know Act (EPCRA) *of 1986 (42 USC 11001–11050).* EPCRA requires emergency planning for areas where HAZMAT are manufactured, handled, or stored and provides citizens and local governments with information regarding potential hazards to their community.

Resource Conservation and Recovery Act of 1976 (42 USC 6901–6992). RCRA established standards and procedures for handling, storage, treatment, and disposal of hazardous waste.

Federal Facility Compliance Act of 1992 (Public Law [P.L.] 102-426). This act provides for a waiver of sovereign immunity on the part of federal agencies with respect to federal, state, and local requirements relating to RCRA solid and hazardous waste laws and regulations.

Federal Insecticide, Fungicide, and Rodenticide Act of 1996 (7 USC 136 et seq.). This act provides federal control of pesticide distribution, sale, and use. It also provides certification criteria for pesticide applicators, including contractors.

Pollution Prevention Act of 1990 (42 USC 13101–13109). This act encourages minimization of pollutants and waste through changes in production processes.

USEPA Regulation on Identification and Listing of Hazardous Waste (40 CFR Part 261). This regulation identifies solid wastes subject to regulation as hazardous and to notification requirements under RCRA.

USEPA Regulation on Standards for the Management of Used Oil (40 CFR Part 279). This regulation delineates requirements for storage, processing, transport, and disposal of oil that has been contaminated by physical or chemical impurities during use.

USEPA Regulation on Designation, Reportable Quantities, and Notification (40 CFR Part 302). This regulation identifies reportable quantities of substances listed in CERCLA and sets forth notification requirements for releases of those substances. It also identifies reportable quantities for hazardous substances designated in the Clean Water Act (CWA).

Additionally, the Maryland Solid Waste Management regulations provide for coordinated state solid waste management and a resource recovery plan (COMAR 26.04), and the Maryland Hazardous Waste Regulations (COMAR 26.13) set forth the requirements for generators, transporters, owners, or operators of treatment, storage, or disposal facilities.

The ROI for HAZMAT, hazardous waste, and petroleum products encompasses areas that could be exposed to an accidental release of hazardous substances from the construction, renovation, or demolition activities. Therefore, the ROI for this section is defined as the boundary of Andrews.

3.7.2 Existing Conditions

This section describes the existing management of HAZMAT and petroleum products, hazardous and petroleum wastes, ERP sites, and solid wastes within the ROI.

HAZMAT and Petroleum Products. Operations conducted at Andrews require the use and storage of HAZMAT. These materials, primarily associated with aircraft operations, include flammable and combustible liquids, acids, aerosols, batteries, corrosives, solvents, paints, and hydraulic fluids. A hazardous materials pharmacy (HAZMART) has been established and located in Building 3066 to serve as a single point of control and accountability for the requisition, receipt, distribution, issue, re-issue, and ultimate disposal of all HAZMAT. The HAZMART system provides Andrews with a standard way to manage HAZMAT procurement and to comply with Environment, Safety, and Occupational Health requirements.

Most spills of HAZMAT and petroleum products within Andrews result from improper management and disposal. The *Spill Prevention, Control, and Countermeasure Plan* for Andrews (USAF 2006b) provides procedures for spill reporting, containment, cleanup, and disposal of HAZMAT and petroleum products. The Andrews Fire Department has responsibility for acting as the first responding unit for all spill incidents.

ASTs and USTs are used to store HAZMAT and petroleum products within Andrews.

Hazardous and Petroleum Wastes. The 11 WG and its tenants produce more than 2,205 pounds (1,000 kilograms) of hazardous waste per month and are therefore regulated as a large quantity generator (LQG) of hazardous wastes under USEPA identification number MD0570024000. Primary types of hazardous wastes generated include batteries, used fuel and oil, solvents, fluorescent bulbs, rags, fuel filters, and

solvent-contaminated solids. The majority of hazardous waste is generated because of aircraft operations (AAFB 2003).

Hazardous waste is generated and accumulated at facilities, such as aircraft hangars, vehicle maintenance areas, and utility shops. Up to 55 gallons of a hazardous waste may be stored at or near its point of generation, at an initial accumulation point (IAP), before it must be transferred to Building 3304, the designated hazardous waste storage area. As of November 30, 2006, there were 471 identified waste streams, accumulated in 80 IAPs located at Andrews (USAF 2009b). Hazardous waste is removed and disposed of by licensed private contractors, as Andrews does not currently have a hazardous waste transfer, storage, and disposal facility; nor does it treat or directly dispose of any hazardous waste.

Environmental Restoration Program. Andrews is responsible for 27 ERP sites and 6 Areas of Concern (AOCs) (Figure 3-2). The ERP sites included spill sites, former fire training areas, former landfills, storage tank sites, a sludge disposal area, and a waste accumulation site (AAFB 2010). Andrews is also responsible for the clean-up of contamination resulting from removal of tanks (USTs/ASTs), spills, and solid waste management units as a part of the ERP. Numerous cleanup actions have taken place at Andrews, including the removal of hundreds of USTs, installation of groundwater treatment systems at key locations, and removal of residual waste from areas to decrease the risk to human health and the environment.

Andrews was officially listed on the National Priorities List (NPL) by the USEPA in June 1999. CERCLA sites are managed under the Partnering Program set up as a result of USEPA placing Andrews on the NPL. Some AOCs would likely be regulated under the

CERCLA Program. Additionally, petroleum sites exempted from regulation under CERCLA are delegated by USEPA to the State of Maryland for management under the RCRA Program.

Solid Waste. Municipal solid waste management and compliance at Air Force installations is established in AFI 32-7042, *Solid and Hazardous Waste Compliance*. In general, AFI 32-7042 establishes the requirements for installations to have a solid waste management program to incorporate the following: a solid waste management plan; procedures for handling, storage, collection, and disposal of solid waste; record-keeping and reporting; and pollution prevention. Source reduction, resource recovery, and recycling of solid waste are addressed in AFI 32-7080, *Pollution Prevention Program*.

Solid waste management at Andrews includes the collection and disposal of non-hazardous solid wastes; recycling; and disposal of overseas waste, infectious waste, and pathological waste. There are no active landfills on base, and solid wastes from Andrews are transported to off-base landfills in accordance with applicable local, state, and federal laws, regulations, and requirements (AAFB 2010).

It is assumed that buildings constructed before 1980 contain asbestos. Asbestos surveys are conducted in conjunction with repair, renovation, demolition and construction projects.

With regard to LBP, buildings built prior to 1978 are considered to contain LBP. If the buildings have not been rehabilitated (i.e., paint has been removed), it is assumed that LBP is present.

3.8 BIOLOGICAL RESOURCES

3.8.1 Definition of the Resource

Biological resources include native or naturalized plants and animals, and the habitats such as wetlands, forests, and grasslands, in which they exist. Sensitive and protected biological resources include plant and animal species that are federally (United States Fish and Wildlife Service [USFWS]) or state (Maryland Department of Natural Resources [MDNR]) listed for protection. Determining which species occur in an area affected by implementation of an action can be accomplished through literature reviews and coordination with appropriate federal and state regulatory agency representatives, resource managers, and other knowledgeable experts.

Under the Endangered Species Act (ESA) (16 USC 1536), an “endangered species” is defined as any species in danger of extinction throughout all or a significant portion of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. The USFWS also maintains a list of species considered to be candidates for possible listing under the ESA. Although candidate species receive no statutory protection under the ESA, the USFWS has attempted to advise government agencies, industries, and the public that these species are at risk and could warrant future protection under the ESA.

The MDNR oversees the protection and management of state-protected species under the Nongame and Endangered Species Conservation Act (Annotated Code of Maryland 10-2A-01). This Act is supported by regulations (Code of Maryland Regulations 08.03.08) that contain the official State Threatened and Endangered Species list.

Biological resources also include wetlands. Wetlands are an important natural system with diverse biological and hydrological functions. These functions include water quality improvement, groundwater recharge and discharge, pollution mitigation, nutrient recycling, unique plant and wildlife habitat provision, stormwater attenuation and storage, sediment detention, and erosion protection. Wetlands are protected as a subset of the waters of the United States under Section 404 of the CWA and incorporate deep-water aquatic habitats and special aquatic habitats (including wetlands). The U.S. Army Corps of Engineers (USACE) defines wetlands as "those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Part 338). The ROI for biological resources in this EA includes Andrews and the GSUs.

3.8.2 Existing Conditions

Andrews is located in the Atlantic Slope Section of the Oak-Pine Forest Region. The original forest consisted primarily of deciduous trees, predominantly oaks and hickories, with some pines dominant in areas where soils were too poor to support deciduous species. A substantial portion of Prince George's and Anne Arundel Counties have been deforested for urban and suburban development, and only small patches of the original forest remain (AAFB 2007d).

Current Vegetative Cover. Nearly 80 percent of the main base at Andrews is developed or intensely managed. The vegetation occurs largely in association with extensively managed areas (i.e., improved areas): lawns, gardens, golf course fairways, ponds, bare ground, and recreational fields. Semi-improved areas include runway borders, the runway infield, and approach clear zones. The remaining patches of

original vegetation (i.e., unimproved areas) consist of or are associated with mixed hardwood forest, mixed hardwood/pine forest, oak forest, oak/hickory forest, oak/pine forest, pine forest, red maple swamp, and shallow emergent marsh. Typical understory plants found in wooded areas include mountain laurel (*Kalmia latifolia*), highbush blueberry (*Vaccinium corymbosum*), and Christmas fern (*Polystichium acrostichoides*).

Approximately 720 acres of forestland occur on the main base. These forested areas are scattered around the perimeter and southern portion of the main base. The forest classifications include modified commercial forestland (MCF), non-commercial forestland (NCF), and restricted commercial forestland (RCF); however, the limited area of forest and urban environment precludes forest management activities for commercial timber production. Approximately 222 acres of MCF occur in scattered stands on the east side of the main base. Approximately 34 acres of NCF occur in the housing areas and areas of the golf course. Approximately 152 acres of RCF occur in riparian zones.

Most turf and landscape areas occur in the improved and semi-improved portions of the main base. These areas include the airfield, golf course, surrounding structures in the cantonment area and base housing, and along major roadways. Dominant turf species are fescue (*Festuca elatior*) and perennial ryegrass (*Lolium perenne*) (AAFB 2010).

Both the Brandywine and Davidsonville sites are less developed than the main base. Vegetation at these sites consist primarily of mixed hardwood forests. This includes pine, oak, hickory and tulip trees. Vegetation in the areas surrounding the antenna fields include fescue and foxtail at Davidsonville and native grasses and forbs at Brandywine.

Wildlife. Existing information on wildlife at Andrews exists primarily for birds and mammals. During wildlife surveys in 1994, a total of 84 bird species were recorded.

Birds associated with open water communities included the Canada goose (*Branta Canadensis*), green heron (*Butorides virescens*), and great blue heron (*Ardea herodias*). Eastern wood pewees (*Contopus virens*), Eastern towhees (*Pipilo erythrophthalmus*), and red-eyed vireos (*Vireo olivaceous*) occurred in stands of mixed hardwood forest, while the prothonotary warbler (*Protonotaria citrea*) and black and white warbler (*Mniotilta varia*) were detected in association with red maple swamp. American crows (*Corvus brachyrhynchos*), house finches (*Carpodacus mexicanus*), Eastern meadowlarks (*Sturnella magna*), Eastern bluebirds (*Sialia sialis*), Carolina chickadees (*Poecile carolinensis*), Carolina wrens (*Thryothorus ludovicianus*), and grasshopper sparrows (*Ammodramus savannarum*) represented some of the species associated with fields and grasslands. Various species of raptors were observed, including the great horned owl (*Bubo virginianus*), Eastern screech owl (*Otus asio),* American kestrel (*Falco sparverius*), the red-shouldered hawk (*Buteo lineatus*), and red-tailed hawk (*B. jamaicensis*) (AAFB 2010).

Mammals known to occur at Andrews include the following: white-tailed deer (*Odocoileus virginianus*), beaver (C*astor canadensis*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis marsupialis*), Eastern gray squirrel (*Sciurus carolinensis*), and Eastern cottontail (*Sylvilagus floridanus*) (AAFB 2009c). Several bat species are also known to be present at Andrews (AAFB 2009c). Reptiles present at Andrews include the Eastern garter snake (*Thamnophis sirtalis*), black rat snake (*Elaphe obsolete*), fence lizard (*Sceloporus undulatus*), and Eastern box turtle (*Terrapene carolina*). Fish species in the Base Lake include largemouth bass (*Micropterus salmoides floridanus*), smallmouth bass (*M. dolomieui*), carp (*Cyprinus carpio*), and bluegill (*Lepomis macrochirus*) (AAFB 2010).

Threatened and Endangered Species. A total of 21 rare, threatened, or endangered plant species have been detected at Andrews (AAFB 2010). Of those, however, only six were located on the main base. The main base's six sensitive species consist of the sandplain gerardia (*Agalinis acuta*), blunt-leaved gerardia (*Agalinis obtusifolia*), Curtiss' three-awn (*Aristida curtissii*), spiral pondweed (*Potamogeton spirillus*), swollen bladderwort (*Utricularia inflate*), and tall nutrush (*Scleria triglomerata*). The only known population of the federally endangered sandplain gerardia on the main base is located on the south-southeast section of Andrews. The area has been fenced off and is monitored on a regular basis to protect the site in accordance with Section 7 of the ESA. The Curtiss' three-awn has been recorded at the edge of the airfield near South Perimeter Road, while the tall nutrush has been found near the southeastern portion of the base near South Perimeter Road. Nine sensitive species occur at the Brandywine Receiver Station. These species are Skinner's foxglove (*Agalinis skinneriana*), button sedge (*Carex bullata*), Buxbaum's sedge (*Carex buxbaumii*), clasping-leaved St. John's-wort (Hypericum gymnanthum), downy bushclover (Lespedeza stuevei), sandplain flax (*Linum intercursum*), racemed milkwort (*Polygala polygama*), Southeastern shrew (*Sorex longirostris*), and pale mannagrass (*Torreyochloa pallida*).

Eight sensitive species have been recorded at the Davidsonville Transmitter site and include: downy milk-pea (*Galactia volubilis*), hoary frostweed (*Helianthemum bicknellii*), downy bushclover, ground cedar (*Lycopodium tristachyum*), anglepod (*Matelea carolinensis*), sidebells wintergreen (*Orthilia secunda*), hyssop-leaved hedgenettle (*Stachys hyssopifolia*), and featherbells (*Stenanthium gramineum*).

Threatened and endangered species surveys occur regularly at Andrews and have been conducted in 1993, 1996-1997, 2004, and 2006. There are no federally threatened or endangered faunal species known to occur on Andrews (AAFB 2010).

Wetlands and Other Aquatic Habitat. Section 404 of the CWA established a program to regulate the discharge of dredge and fill material into waters of the United States, including wetlands. Activities in waters of the United States that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. In Maryland, the MDE and the USACE are responsible for enforcing Section 404 compliance. EO 11990, *Protection of Wetlands*, requires federal agencies, including the Air Force, to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

In May 2004, in coordination with the Baltimore District USACE, the 89 AW Civil Engineer Squadron Environmental Management Flight, now the 11 WG Civil Engineer Squadron Environmental Management Flight, completed a formal wetland delineation of all areas on Andrews. Approximately 87.2 acres of jurisdictional wetland were delineated at Andrews (Figure 3-2). The majority of these wetlands were palustrine forested wetlands, located primarily along streams and drainageways. The other significant wetland type identified at Andews was the palustrine emergent wetlands. This wetland type was also located primarily along streams and drainageways. Other wetland types observed on the main base include palustrine scrub/shrub wetlands, and palustrine unconsolidated bottom wetlands (89 AW 2004). Additional wetlands occur

within the flightline area of the base. Wetlands have also been documented on the Brandywine and Davidsonville Antenna sites.

3.9 CULTURAL, HISTORICAL, AND ARCHEOLOGICAL RESOURCES

3.9.1 Definition of the Resource

Cultural resources are historic districts, sites, buildings, structures, or objects considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes. They include archaeological resources, historic architectural/engineering resources, and traditional resources. Cultural resources that are eligible for listing in the National Register of Historic Places (NRHP) are called historic properties. Historic properties are evaluated for potential adverse impacts from an action. In addition, some cultural resources such as American Indian sacred sites or traditional resources may not be classified as historic properties, but are also evaluated under NEPA for potential adverse effects from an action. These resources are identified through consultation with appropriate American Indian or other interested groups. In 1999, the DoD promulgated its American Indian and Alaska Native Policy emphasizing the importance of respecting and consulting with tribal governments on a government-to-government basis. The Policy requires an assessment, through consultation, of the effects of proposed DoD actions that may have the potential to significantly affect protected tribal resources, tribal rights, and Indian lands before decisions are made by the DoD.

The ROI for cultural resources is the area within which the Proposed Action has the potential to affect existing or potential archaeological, architectural, or traditional cultural resources. For the Proposed and Alternative actions, the ROI is defined as each

project's footprint, including any areas that could be used temporarily for staging or other project-related activities.

3.9.2 Existing Conditions

Andrews and the associated GSUs have been the subject of numerous cultural resource investigations over the years. In 2009, Andrews prepared an *Integrated Cultural Resources Management Plan* (ICRMP) to help fulfill the Air Force's responsibilities under Sections 106 and 110 of the National Historic Preservation Act (NHPA), as amended (AAFB 2009c). The ICRMP describes the historical setting of the installation from the prehistoric period through the historical context of establishing the installation into its modern day status.

Since 1947, several archaeological investigations have been conducted on Andrews and support facilities (AAFB 2009c). The initial surveys identified six archaeological sites on Andrews. Further evaluation of these sites determined that only a portion of the Belle Chance site (18PR447) is eligible for inclusion on the NRHP. Three NRHP-eligible archaeological sites are located at the Davidsonville Transmitter Site. The ICRMP indicates that Andrews has completed its inventory and identification of archaeological resources and no new inventory efforts were determined to be necessary. Summaries of the archaeological and historic architectural sections of the ICRMP are included below.

Archaeological Resources. The existence of indigenous populations on Andrews is evidenced by two sites on the main base area. As the integrity of the combined prehistoric/historic sites on the main base property has been compromised by past development, they are not considered eligible to the NRHP. A portion of Site 18PR447,

from the historic period and associated with the remaining Belle Chance structures, is eligible for the NRHP (AAFB 2009c).

Historic Architectural Resources. As part of the ICRMP, a historic architectural survey was conducted on all standing structures built before 1947. The investigation concluded that only Belle Chance was potentially eligible for nomination to the NRHP. The Belle Chance site consists of three NRHP-eligible buildings associated with the archaeological deposits of 18PR447.

A base-wide inventory of Cold War-era buildings and structures conducted in 1995 (AAFB 2009c) evaluated 27 properties for NRHP eligibility; of these, only the ANG Alert Hangar (Building 3032) located within the 113 WG primary cantonment area, was recommended as potentially eligible for inclusion in the NRHP. The Maryland State Historic Preservation Office (SHPO) has subsequently determined that Building 3032 is ineligible for inclusion in the NRHP (AAFB 2009c).

Traditional Resources. Although there are no federally recognized tribes in Maryland, Andrews will consider Native American concerns in base planning, complying with the American Indian Religious Freedom Act and the Native American Graves Protection and Repatriation Act.

3.10 SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

3.10.1 Definition of the Resource

Socioeconomic resources are defined as the basic attributes associated with the human environment, particularly population and economic activity. Population is described by the change in magnitude, characteristics, and distribution of people. Economic activity

typically encompasses employment, personal income, and business growth. In addition to these characteristics, populations of special concern, as addressed by EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* are also identified.

The essential purpose of EO 12898 is to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, tribal, and local programs and policies. Also included with environmental justice are concerns pursuant to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. This EO directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children under the age of 18. These risks are defined as "risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest."

The socioeconomic and environmental justice analysis that follows is a component of NEPA compliance. Socioeconomic data are presented for the county, state, and nation to characterize baseline socioeconomic conditions in the context of regional, state, and national trends. For socioeconomics, the ROI is defined as Prince George's County and Anne Arundel County (Davidsonville GSU). Existing conditions for environmental justice

were analyzed through demographic characterization, particularly ethnicity and poverty status for the ROI.

3.10.2 Existing Conditions

Social and Economic Conditions. Andrews is located five miles southeast of Washington, D.C., in southern Prince George's County. The Brandyville GSU is located 10 miles south of the base in southern Prince George's County. The Davidsonville GSU is located 20 miles to the northeast in central Anne Arundel County (AAFB 2010).

Table 3-8 compares the differences in population in the Prince George's County and Anne Arundel County between the 1990 Census, the 2000 Census, and the most recent population estimates from 2009. Prince George's County was growing at a slower rate (9.9 percent) than the state (10.8 percent) and the nation (13.5 percent) from 1990 to 2000. From 2000 to 2009, Prince George's County grew at a slower rate (4.1 percent) than the state (7.6 percent) and the nation (9.1 percent). The population growth in Anne Arundel County between 1990 and 2000 was higher than the state and national percentages at 14.6 percent. Between 2000-2009, the population growth was lower than the previous decade at 6.4 percent, which was also lower than the state and national growth.

Table 3-8. Population Changes in the Region

Location	1990	2000	2009	Percent Change 1990-2000	Percent Change 2000-2009
Prince George's County	729,268	801,515	834,560	9.9	4.1
Anne Arundel County	427,239	489,656	521,209	14.6	6.4
Maryland	4,781,468	5,296,486	5,699,478	10.8	7.6
United States	248,709,873	281,421,906	307,006,550	13.2	9.1

Source: U.S. Census Bureau 1990, 2000, and 2009; U.S. Census Bureau 2000; and U.S. Census Bureau 2009

The closest communities to Andrews include the town of Morningside to the northwest, Camp Springs Census Designated Place (CDP) to the west, Clinton CDP to the south, and Rosaryville CDP to the east. The Clinton CDP had the highest 2000 population (26,064), followed by Camp Springs CDP (17,968), Rosaryville CDP (12,322), and the town of Morningside (1,295) (U.S. Census Bureau 2000). The closest communities to the Brandywine GSU include the unincorporated community of Brandywine, Clinton CDP to the north, and the unincorporated community of Waldorf to the east. The population of Brandywine CDP was 1,410 at the 2000 census (US Census Bureau 2000). The population of the Waldorf CDP was 22,311 at the 2000 census. The closest communities to the Davidsonville GSU include the town of Davidsonville. As of the 2000 census, the Davidsonville zip code (21035) had a population of 7,369 (U.S. Census Bureau 2000).

A new town development is proposed to be located immediately northeast of Andrews. Westphalia is a 6,000-acre planned community with public facilities proposed to include nearly 15,000 residential units. Although housing development has already started, the entire community is not anticipated to be completed until 2026 (MNCPPC 2006).

According to the 2009 estimates from the U.S. Census Bureau, there were 295,790 households in Prince George's County and 191,741 households in Anne Arundel County (Table 3-9). The 2009 average household size was 2.8 for Prince George's County and 2.6 for Anne Arundel County, which were close in comparison to state (2.7) and the national (2.6) household size estimates for 2009. The 2009 population density estimates for both Prince George's County (1,651) and Anne Arundel County (1,177) were considerably higher than the state of Maryland (542) and the nation (80).

Table 3-9. 2009 Household Characteristics and Population Density

Geographic Area	Households (#)	Average Household Size[a] (#)	Population Density per Square Mile[b]
Prince George's County	295,790	2.8	1,651
Anne Arundel County	191,741	2.6	1,177
Maryland	2,095,122	2.7	542
United States	113,616,229	2.6	80

Source: U.S. Census Bureau 2009
[a] Average household size of owner-occupied and renter-occupied units.
[b] Latest data is from U.S. Census Bureau 2000

Prince George's County, which is the smallest geographic area for which labor statistics were analyzed, had approximately 488,084 persons (16 years and older) in the labor force in 2009. Anne Arundel County had approximately 289,688 persons (16 years and older) in the labor force in 2009 (Table 3-10). Prince George's County had a higher percent population in the labor force (74.8 percent) than the state (69.9 percent) and the nation (65.3 percent), while Anne Arundel County had a similar percent population in the labor force (70.0) as the state. In 2009, the unemployment rate for Prince George's County was 10.2 percent, which was higher than the state (8.0 percent) and the nation (9.9 percent), while Anne Arundel County had a lower percent unemployment rate at 7.3 percent. The 2009 per capita personal income for Prince George's County ($30,657) is lower than the state ($34,389) and slightly higher than the nation ($26,409). The per capita personal income for Anne Arundel County was highest ($37,138) in comparison to Prince George's County, the state of Maryland, and the nation.

Table 3-10. 2009 Labor Force Characteristics and Per Capita Personal Income

Geographic Area	Labor Force (#)	Percent Population in Labor Force	Percent Civilian Unemployed	Per Capita Personal Income ($)
Prince George's County	488,084	74.8	10.2	30,657
Anne Arundel County	289,688	70.0	7.3	37,138
Maryland	3,153,477	69.9	8.0	34,389
United States	157,334,979	65.3	9.9	26,409

Source: U.S. Census Bureau 2009

In 2008, the total population living and working at Andrews was 16,679. This includes Air Force Active Duty, Guard, Reserves, and civilians. Of this total, active duty personnel total 7,547, or 45 percent, while civilians total approximately 9,132 (AAFB 2010). In addition, the base supports a military retiree population of approximately 25,000 persons within the greater Washington, D.C., metropolitan areas (AAFB 2010). The fiscal year (FY)2008 expenditure included $2.2 million from construction, $150.5 million from services, and $1.1 million from commissary by, $4.1 million for health and education, and $1.4 million other. The total annual economic impact generated by Andrews activities was $1.1 billion (AAFB 2008b).

Environmental Justice. Minority populations are identified as Black or African American and not of Hispanic origin; American Indian and Alaska Native; Asian; Native Hawaiian and other Pacific Islander; Hispanic; persons of some other race; and persons of two or more races. Minority populations should be identified where either the minority population of the affected area exceeds 50 percent or the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Table 3-11 displays the comparative statistics for race and Hispanic identification for the ROI. The estimated 2009 Black or African American population for Prince George's County (65.6 percent) is substantially higher than the state (29.7 percent) and the nation (12.9 percent). No other minority population is well represented in Prince George's County. No minority population is well represented in Anne Arundel County (Table 3-11). The estimated 2009 Black or African American population for this country is slightly higher (15.7 percent) than the nation but is still lower than the state overall (29.7 percent).

Table 3-11. Profile of Demographic Characteristics, Year 2009[a]

Geographic Region	Race						Ethnic Group
	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and other Pacific Islander	Two or More Races	Hispanic or Latino (of any Race)
Prince George's Co.	233,677	547,471	4,173	33,382	835	15,022	112,666
Percent	28.0	65.6	0.5	4.0	0.1	1.8	13.5
Anne Arundel Co.	410,713	81,830	2,085	16,679	521	9,382	25,539
Percent	78.8	15.7	0.4	3.2	0.1	1.8	4.9
Maryland	3,590,671	1,692,745	22,798	296,373	5,699	96,891	410,362
Percent	63.0	29.7	0.4	5.2	0.1	1.7	7.2
United States	244,377,214	39,603,845	3,070,066	14,122,301	614,013	5,219,111	48,507,035
Percent	79.6	12.9	1.0	4.6	0.2	1.7	15.8

Note: Only the percentages under the 'Race' heading will total 100 percent. Hispanic or Latino can be part of any race, and therefore, the percent of Hispanic or Latino is percent of total population.
[a] Source: U.S. Census Bureau 2009

EO 13045, *Protection of Children from Environmental Health Risks and Safety* seeks to protect children from disproportionately incurring environmental health risks or safety risks. Table 3-12 depicts the percent of persons under the age of legal consent (age 18). The percent of the population under age 18 for Prince George's County (24.8 percent) is slightly higher than the state (23.7 percent) and the nation (24.3 percent). In comparison, the percent of the population under age 18 for Anne Arundel County (23.2 percent) is lower than the state and the nation.

Table 3-12. Persons Under Age 18 in the ROI in the Year 2009

Geographic Area	Percent Under Age 18
Prince George's County	24.8
Anne Arundel Co.	23.2
Maryland	23.7
United States	24.3

Source: U.S. Census Bureau 2009

Poverty status is reported as the number of persons or families with income below a defined threshold level and is used to identify low-income populations. Table 3-13 compares poverty at all geographic levels for both individuals and persons under age

18. The estimated poverty level in the year 2008 was defined as an income of $10,400 in a household of one individual, or $21,200 for a family of four (U.S. Department of Health and Human Services 2008). Both Prince George's County and Anne Arundel County have a lower percentage of individuals living below the poverty level (6.7 and 5.0 percent, respectively) than the state (8.2 percent) and the nation (13.2 percent). Prince George's County and Anne Arundel County also have a lower percentage of persons under age 18 below poverty level (8.4 and 7.0 percent, respectively) than the state (10.4 percent) and the nation (18.2 percent).

Table 3-13. Individuals in Poverty, Reported in the Year 2008[a]

Geographic Area	Percent Individuals Below Poverty Level	Percent Persons Under Age 18 Below Poverty Level
Prince George's County	6.7	8.4
Anne Arundel Co.	5.0	7.0
Maryland	8.2	10.4
United States	13.2	18.2

[a] Latest Data from U.S. Census Bureau 2008

3.11 LAND USE AND VISUAL RESOURCES

3.11.1 Definition of the Resource

Land use classifications reflect either natural or human activities occurring at a given location. Land use resulting from human activities includes residential, commercial, industrial, airfield, recreational, agriculture, and other developed areas. Natural uses include resource production, such as forestry and agriculture, and resource protection, such as conservation areas, wildlands, and parks. Management plans, policies, and regulations govern the type and extent of land use allowable in specific areas and protection specially designated for environmentally sensitive areas. The ROI for land use includes the lands of Andrews, the associated GSUs, and adjacent properties in Prince George's and Anne Arundel Counties.

3.11.2 Existing Conditions

Land Use. Andrews, being located approximately five miles from Washington, D.C., is part of an inner suburb of a large city. The communities of Camp Springs, Morningside, Woodyard, and Clinton are nearby. The airfield at Andrews is used as the aerial port of arrival/departure for the President of the United States, members of Congress, and foreign heads of state (AAFB 2010). Various tenants, such as the U.S. Navy, occupy different parts of Andrews under various joint basing agreements.

Existing and future land use at Andrews is presented in the Andrews General Plan Update. The General Plan identifies 10 general current land use classifications (Figure 3-3) within the 4,390 acres of the main base. The approximate acreages of the existing land uses are summarized in Table 3-14. The General Plan also identifies future land use classifications (Figure 3-4) (AAFB 2010).

Table 3-14. Andrews Existing Land Use Acreages

Land Use	Acres	Percentage
Administration	127	2.9
Aircraft O&M	366	8.3
Airfield	1,525	34.7
Community	136	3.1
Industrial	144	3.3
Medical	47	1.1
Open Space	784	17.8
Outdoor Recreation	731	16.7
Residential	508	11.6
Water	22	0.5
Total	4,390	100.0

Source: AAFB 2010

Andrews is divided into western and eastern sections, separated by the airfield that runs north to south. The western section of the main base contains the majority of the land area, including a large outdoor recreation/golf course facility, all of the community

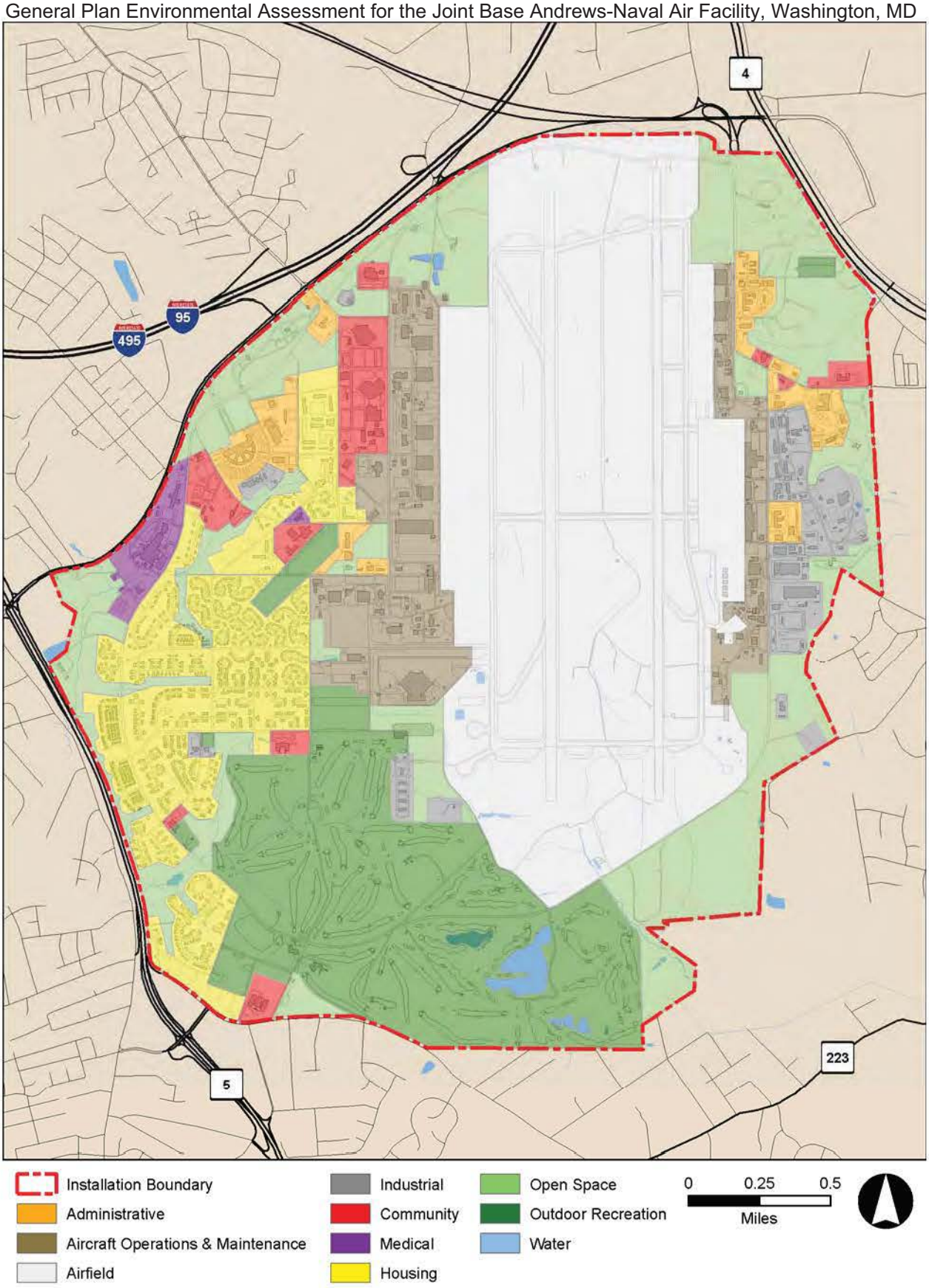

Figure 3-3. Current Land Use at Joint Base Andrews-Naval Air Facility

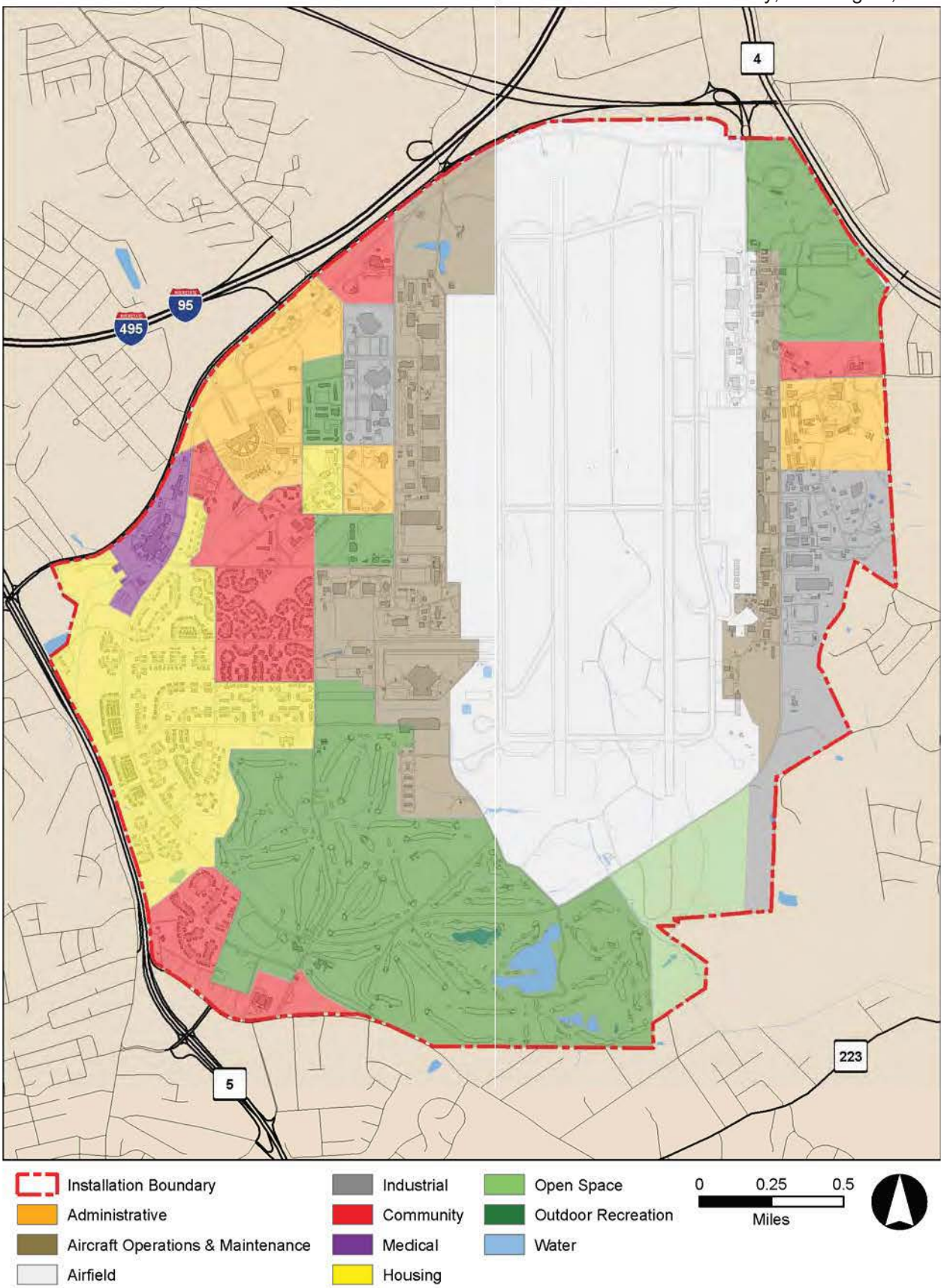

Figure 3-4. Future Land Use at Joint Base Andrews-Naval Air Facility

facilities, and the Malcolm Grow Medical Center. HQ of the 11 WG, AFDW, and the 89 AW are the predominant administrative uses on the west side, with key partner unit HQ on the east side. The majority of the industrial uses are located on the eastern portion of the base. Commercial services are specifically lacking on the east side of the base, and personnel that work on the east side of the base often travel to the west side to obtain commercial services. Residential areas are located primarily along the western perimeter.

Land use activities most sensitive to high levels of ambient noise exposure are residential, public services, commercial, cultural, and recreational uses. In airport noise analyses, noise contours are typically used to determine compatibility of aircraft operations with local land uses, including on-base land uses. Based on guidelines adopted jointly by the FAA, the DoD, and the USEPA, any land use lying in an area of less than 65 dB L_{dn} noise exposure is compatible. Between 65 dB L_{dn} and 85 dB L_{dn}, the mix of compatible uses changes to the point that very few uses are compatible at the higher end of the range. Refer to Figure 3-1 for a depiction of noise contours on Andrews.

Visual Resources. The built environment of Andrews consists of two parallel runways and associated taxiways and parking aprons; wing and unit HQ; industrial facilities; community centers; unaccompanied and family housing; medical center; recreational facilities; and open space. Andrews has approximately 102 miles of paved roads; two active runways (01L/19R and 01R/19L) that are 9,300 and 9,755 feet long, respectively; two mass aircraft parking aprons (west and east); and a network of parallel and connecting taxiways (AAFB 2010). Although the predominant visual characteristics of the installation are industrial and administrative in nature, an attempt has been made to

maintain wooded areas wherever practicable (USAF 2004). The recent construction of the new, five-story HQ facility on the west side of the base has changed the visual character of this area. This facility was specifically designed to blend with the surrounding facilities to not adversely affect the visual character of this area. There are no wild and scenic rivers or highways, unique geologic landforms, or other highly valued aesthetic features on or near the installation (USAF 2004).

3.12 SUSTAINABILITY AND GREENING

In accordance with EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management,* the Air Force would incorporate sustainability and greening practices by minimizing waste during construction, recycling appropriate materials, and purchasing items produced from recycled materials. EO 13423 is a directive that requires federal agencies to implement sustainable practices for a variety of water-, energy-, and transportation-related activities. EO 13514, *Federal Leadership in Environmental, Energy and Economic Performance*, makes reducing greenhouse gas emissions a priority of the federal government. EO 13514 requires the Air Force to develop sustainability plans focused on cost-effective projects and programs to increase energy efficiency, reduce fleet petroleum consumption, conserve water, reduce waste, support sustainable communities, and leverage purchasing power to promote environmentally responsible products and technologies. Where possible, the Air Force would incorporate sustainable building and greenhouse-gas-reducing concepts into the engineering design process. The ROI for sustainability and greening is Andrews.

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4.0 ENVIRONMENTAL CONSEQUENCES

This section describes the potential impacts to various constraints on Andrews that would result from implementation of the Proposed Action.

4.1 NOISE

4.1.1 Methodology

Noise associated with aircraft operations at Andrews, other transportation-related noise, and construction activities associated with the Proposed Action will be considered and compared with current conditions to assess impacts. Data developed during this process will also support analyses in other resource areas.

Based on numerous sociological surveys and recommendations of federal interagency councils, the most common benchmark referred to is an L_{dn} of 65 dBA. This threshold is often used to determine residential land use compatibility around airports, highways, or other transportation corridors. Two other average noise levels are also useful:

- An L_{dn} of 55 dBA was identified by the USEPA as a level ". . . requisite to protect the public health and welfare with an adequate margin of safety" (USEPA 1974). Noise may be heard, but there is no risk to public health or welfare.
- An L_{dn} of 75 dBA is a threshold above which effects other than annoyance may occur. It is 10 to 15 dBA below levels at which hearing damage is a known risk (OSHA 1983). However, it is also a level above which some adverse health effects cannot be categorically discounted.

Public annoyance is the most common impact associated with exposure to elevated noise levels. When subjected to L_{dn} of 65 dBA, approximately 12 percent of persons so exposed will be "highly annoyed" by the noise. At levels below 55 dBA, the percentage of annoyance is correspondingly lower (less than three percent). The percentage of people annoyed by noise never drops to zero (some people are always annoyed), but at levels below 55 dBA, it is reduced enough to be essentially negligible.

4.1.2 Potential Impacts

4.1.2.1 Proposed Action

No additional aircraft are anticipated as a result of actions association with the Base General Plan Update. As a result, noise from aviation activities remains as discussed in Section 3 and will therefore not be further evaluated.

Construction Noise. Per the Proposed Action, Andrews would build new facilities, demolish older facilities, and upgrade other aspects of the installation's supporting infrastructure. There are several aspects of this proposal that have the potential to create noise impacts in the ROI.

Construction would most likely occur over a period of a number of years, and at any one time, only a small number of projects would be expected to be ongoing simultaneously. Therefore, noise associated with active construction sites would be expected to be intermittent and of relatively limited duration. A hypothetical scenario was developed to assess potential noise associated with construction activities on a construction site. Primary noise sources during such activity would be expected to be heavy vehicles and earth moving equipment. Table 4-1 shows sound levels associated with typical heavy construction equipment under varying modes of operation.

Table 4-1. Typical Equipment Sound Levels

Equipment	Sound Level (in dBA) Under Indicated Operational Mode[1]		
	Idle Power	Full Power	Moving Under Load
Forklift	63	69	91
Backhoe	62	71	77
Dozer	63	74	81
Front-End Loader	60	62	68
Dump Truck	70	71	74

[1]Measured at 125 Feet
Source: USAF 1998

For the assessment of construction noise, a hypothetical “construction area” was designated that approximated the estimated area that would be involved in supporting a major project under the proposal.

The first step in the analysis was to estimate equipment usage and calculate the total acoustic energy that would be expected to be generated on the site. These data also provided information on each individual equipment item's relative contribution to the total amount of acoustic energy generated on the site. Next, individual equipment was spatially distributed throughout the construction zone considering “most likely” areas of operation. This yielded an equipment-weighted contribution to total site acoustic energy at different points throughout the site. With this spatial distribution, it was then possible to calculate a mean and standard deviation for the distribution along an axis running through the site.

These data were then used to normally distribute the total site noise energy throughout the site. Finally, the normally distributed sound energy from multiple source points throughout the site was aggregated at a range of points at varying distances from the site edge. This allowed a determination at those points of the total acoustic energy that had emanated off-site.

Calculations based on this conservative scenario indicate an Equivalent Noise Level (L_{eq}) over an eight-hour period ($L_{eq(8)}$) of 67 dBA at a distance of 500 feet from the edge of the site. This is then normalized to an L_{eq} over a 24-hour period ($L_{eq(24)}$) of 62 dBA. Because no construction activity would be expected to occur at night, this would be equivalent to L_{dn} 62 dBA. At a distance of 1,000 feet from the site, noise levels are $L_{eq(8)}$ 62 dBA and $L_{eq(24)}$ 58 dBA. Due to the conservative nature of the scenario, and the fact that sound attenuation only due to spherical spreading was considered, actual levels emanating off-site would be expected to be lower.

4.1.2.2 No Action Alternative

Under the No-Action Alternative, actions associated with the General Plan Update would not be implemented. Aircraft operations would remain as discussed in Section 3, and no increases to the existing noise environment would be created by construction activities.

4.2 AIR QUALITY

4.2.1 Methodology

The approach to the air quality analysis was to evaluate the potential and types of impacts resulting from the projects listed in the General Plan Update. Specific projects listed in the General Plan Update will be evaluated in accordance with federal, state, and local air pollution standards and regulations as those projects are designed and further NEPA evaluation is conducted.

4.2.2 Potential Impacts

4.2.2.1 Proposed Action

The implementation of the updated General Plan and proposed improvements involves construction, demolition, renovation, and maintenance activities. Of these activities, construction and demolition activities would be the primary causes of air pollutant releases from construction equipment use, as renovations to existing facilities generally occur inside the structure and do not affect regional air quality emissions, and maintenance activities are assumed to be relatively small jobs compared to the overall operation of the base, thus having a minimal affect to air quality. Demolition activities produce temporary increases in PM emissions. This analysis qualitatively discusses the impacts to regional air quality based on the proposed CIP, and the ADPs as specific projects would be analyzed in detail in separate NEPA documents.

Capital Improvements Program. The future development plans suggested under the CIP include a number of roadway and runway repairs; infrastructure repair; repair or replacement of generators and Heating, Ventilating, and Air Conditioning (HVAC) units; added parking areas; and construction of new facilities. These projects would require the use of construction equipment for short periods of time, causing slight increases to pollutant emissions. Paving of roads or parking areas increases VOCs emissions temporarily. The replacement of any stationary generators may require a construction permit (373 kW or greater in size) as well as subsequent changes to the State Operating Permit (Synthetic Minor) that Andrews operates under, depending on type, size, and use of the generator. Coordination with the Air Program Manager would be necessary to obtain a construction permit and make any changes to the base permit and minimize the potential for any exceedances of the permit or conformity thresholds

due to the O_3 moderate non-attainment and $PM_{2.5}$ non-attainment status of the Andrews air shed. For moderate non-attainment areas, *de minimis* threshold levels for conformity applicability analysis is 50 and 100 TPY for VOCs and NO_x, respectively.

A number of facilities that are outdated and obsolete would be demolished to meet future needs of the base. Demolition of structures would have a temporary increase in PM emissions. These are not expected to exceed non-attainment thresholds ($PM_{2.5}$ *de minimis* conformity applicability threshold for non-attainment areas is 100 TPY). Mitigations may be necessary depending on the number and size of facilities being demolished concurrently to minimize suspended particulates.

Projects proposed under the CIP would cause increases in pollutant emissions temporarily and in a localized area. Once construction and demolition activities are completed, emissions would return to baseline levels. Equipment that is repaired or replaced may function more efficiently, which could potentially decrease emissions.

Area Development Plans. Each ADP would require some construction, demolition, and/or renovation activity to implement. These activities would produce temporary increases in the regional air quality. The consolidation of resources by functionality and users groups minimizes cross-installation traffic and provides a streamlined and efficient use of the base. This is seen in the Town Center, Industrial, Operations Quadrant, and East Administrative ADPs, where the VMT would be minimized for residents and employees alike, thus decreasing the overall mobile source emissions from vehicular traffic. Other ADPs, such as the West and East Flight lines, would require extensive construction, demolition, and/or renovations to meet current and future operation needs, increasing emissions temporarily. The construction emissions for the implementation of

the ADPs, though temporary, would need to consider the $PM_{2.5}$ non-attainment status and moderate non-attainment status for O_3 and verify that conformity applicability thresholds would not be exceeded. The implementation of these ADPs has the potential for long-term decreased vehicle emissions by personnel and residents alike installation-wide. Short-term impacts to emissions from construction/demolition activities and long-term impacts are expected to have a positive effect.

4.2.2.2 No Action Alternative

Failure to implement the Proposed Action would result in the continued development of Andrews using the 2003 General Plan. Such conditions have the potential for minor adverse impacts to Air Quality in the region. One of the intents of the General Plan Update is to reduce the amount of vehicular travel at Andrews by grouping facilities with similar functions and by the town center concept to reduce the need to travel by vehicle.

4.3 SAFETY AND OCCUPATIONAL HEALTH

4.3.1 Methodology

Impacts are assessed according to the potential to increase or decrease safety risks to personnel, the public, and property. Impacts were assessed based on direct and indirect effects from implementing the Proposed Action. Unacceptable or unnecessary health and safety risks would be considered significant.

4.3.2 Potential Impacts

4.3.2.1 Proposed Action

In general, implementation of the Proposed Action would result in positive benefits to the safety environment of Andrews. For example, various structures that are currently

listed as airfield obstructions under a waiver would be demolished. The replacement facilities would be constructed outside of any of the airfield zones that would require waivers. Providing new, properly sited facilities that support operation requirements with adequate space and improved infrastructure would generally enhance safety.

Implementation of the Proposed Action would slightly increase the short-term risk associated with construction contractors performing work at Andrews because the level of such activity would increase. Contractors would be required to establish and maintain safety programs. Activities involved in the proposed facility construction, modification, and demolitions are not unique and are not anticipated to pose an unacceptable or unnecessary safety risk to base personnel or the public.

Buildings proposed to be demolished that are known to contain asbestos and LBP would also pose a safety risk to workers. To minimize exposure, all demolition activities would be conducted in accordance with applicable federal, state, and local regulations, as well as existing Air Force procedures. Licensed contractors would conduct the removal of all hazardous wastes and other wastes in accordance with all appropriate federal and state regulations.

The total number of aircraft would remain the same. Therefore, flight safety risks would remain the same as the existing conditions and would not pose an unacceptable or unnecessary safety risk to base personnel or the public.

4.3.2.2 No Action Alternative

Failure to implement the Proposed Action would result in the continued development of Andrews using the 2003 General Plan. Such conditions have the potential for minor adverse impacts to safety. As indicated in the 2009 TMP, failure to make improvements

to the transportation system and roadways would result in increased traffic congestion at key intersections on and off Andrews during peak periods. The increased traffic congestion during peak periods would create an increased potential for accidents and other safety violations.

4.4 EARTH RESOURCES

4.4.1 Methodology

Protection of unique geologic features, minimization of soil erosion, and the siting of facilities relative to potential geologic hazards and soil limitations are considered when evaluating impacts to earth resources. If the Proposed Action were to substantially affect or be substantially affected by any of these features, impacts would be considered significant. Generally, impacts associated with earth resources can be avoided or minimized to a level of insignificance if proper construction techniques, erosion control measures, and structural engineering designs are incorporated into project development.

Analysis of potential impacts to geologic resources typically includes identification and description of resources that could potentially be affected, examination of the potential effects that an action may have on the resource, assessment of the significance of potential impacts, and provision of mitigation measures in the event that potentially significant impacts are identified. Analysis of impacts to soil resources resulting from proposed activities examines the suitability of locations for proposed operations and activities. Impacts to soil resources can result from earth disturbance that would expose soil to wind or water erosion.

4.4.2 Potential Impacts

4.4.2.1 Proposed Action

The Proposed Action would result in the implementation of various ADPs and associated construction and improvement projects, as described in Section 2. The grading of existing soils and placement of structural fill for new facilities would not substantially alter existing soil conditions at Andrews, because much of the property has been previously disturbed by prior development, and most naturally occurring surface soils are no longer present, as described in Section 3. Additionally, the footprint of much of the proposed construction would be located on existing impervious surface or previously disturbed soils. Although no borings or other intrusive studies were conducted, based on existing information, there are no special qualities associated with the soils or geologic resources known from the sites proposed for construction activities.

Implementation of BMPs during construction activities would minimize impacts associated with erosion. BMPs could include silt fencing, sediment traps, application of water sprays, and revegetation of disturbed areas, as appropriate and necessary. Impacts to earth resources are anticipated to be minimal under the Proposed Action.

4.4.2.2 No Action Alternative

Under the No Action Alternative, development would continue using the 2003 General Plan. Impacts would be similar to those described in the Proposed Action.

4.5 WATER RESOURCES

4.5.1 Methodology

Criteria for evaluating impacts related to water resources associated with implementation of the Proposed Action and its alternatives are water availability, water quality, and adherence to applicable regulations. Impacts are measured by the potential to reduce water availability to existing users; endanger public health or safety by creating or worsening health hazards or safety conditions; or violate laws or regulations adopted to protect or manage water resources.

The MDE Water Management Administration (WMA) and the USACE are the regulatory agencies that govern water resources in the State of Maryland and at Andrews. These agencies have adopted the USEPA's applicable environmental rules and regulations. The CWA of 1977 regulates pollutant discharges and development activities that could affect aquatic life forms or human health and safety.

4.5.2 Potential Impacts

4.5.2.1 Proposed Action

With regard to water resources, the primary concerns associated with implementation of the Proposed Action include effects on water quality during construction and with operation of proposed facilities, impacts on surface waters, changes to surface water drainage and groundwater recharge, impacts to wetlands, and effects on the availability of local water supplies.

The General Plan Update provides concepts of proposed construction and demolition. Specific information regarding the specific impact area of a proposed building, for

example, is not available and would be evaluated in a separate NEPA analysis once the specific design requirements of the project have been developed. Although much of the area proposed for construction is existing impervious surface, it is anticipated that implementation of the Proposed Action would potentially result in a net increase of impervious surfaces (concrete or asphalt pavement, buildings, etc.). Although, the reorganization of land uses, consolidation of facilities, and stormwater retro-fitting of existing parking facilities is likely to mitigate any increase. However, as mentioned above, because the site-specific designs are not completed at this time, a separate analysis would describe the site-specific details of each future project. Future projects would comply with the current version of the *Maryland Stormwater Management Guidelines for State and Federal Projects* and with the requirements of the Energy Independence Security Act (EISA) Section 438.

Implementation of the Proposed Action would result in some new construction occurring in existing developed areas. Some of the new construction would result in a decrease in impervious areas. Decreasing impervious areas can improve the quality and reduce the quantity of stormwater runoff.

The Proposed Action would potentially increase the amount of impervious surfaces on the installation, resulting in an increase in the amount of surface runoff and a decrease in groundwater recharge. However, the reorganization of land uses, consolidation of facilities, and stormwater retro-fitting of existing parking facilities is likely to mitigate any increase surface runoff. The Proposed Action would require modifications to the installation storm drainage system and updating the installation SWPPP in order to properly manage stormwater. Andrews would coordinate with MDE WMA to obtain appropriate permits to control any increased stormwater runoff related to new

development. Requirements for management of stormwater runoff are provided in *Maryland Stormwater Management Guidelines for State and Federal Projects* (MDE 2010), and specific stormwater management methods are provided in the *2000 Maryland Stormwater Design Manual* (MDE 2000) or the most current version. A stormwater management plan would be developed and submitted to MDE WMA and approved prior to implementation of construction activities. Adherence to these requirements would minimize degradation of local water quality and would minimize potential impacts. Project design and construction would meet all appropriate federal and state stormwater regulations. Proposed projects at the GSU are not anticipated to impact water resources as these projects would most likely involve replacing or modifying existing antennas.

4.5.2.2 No Action Alternative

Under the No Action Alternative, development would continue using the 2003 General Plan. Impacts would be similar to those described in the Proposed Action.

4.6 INFRASTRUCTURE/UTILITIES

4.6.1 Methodology

Impacts on infrastructure are evaluated based on the potential for disruption or improvement of existing levels of service, transportation patterns, circulation, airfield conditions, sanitary sewer, potable water, stormwater drainage, natural gas, electricity, heating and cooling, liquid fuels, and communication systems. Impacts might arise from physical changes to circulation, construction activities, construction-related traffic on local roads, changes in daily or peak-hour traffic volumes, energy needs created by either direct or indirect workforce, and on-base workforce population changes. An effect

might be considered adverse if an action exceeds the capacity for the roadway, airfield, or utility. No infrastructure-/utility-related impacts are anticipated at the GSUs. A description of potential impacts at the main base are described below. Because the site-specific designs are not completed at this time, a separate analysis would describe the site-specific details of each future project.

4.6.2 Potential Impacts

4.6.2.1 Proposed Action

Transportation and Roadways. The addition of BRAC personnel and transfers resulted in the addition of approximately 2,100 new personnel at Andrews. These personnel changes and associated transportation impacts were analyzed in the BRAC EA (AAFB 2007a), and in September 2009 a TMP (USAF 2009a) was completed for the entire installation. The overall goals of the TMP included outlining steps to reduce single-occupant vehicle commuting and encourage a reduction in vehicular trips by supporting bicycle commuting, ride-sharing transit use, and other improvements to enhance the pedestrian environment.

The designs of the ADPs and transportation improvement projects within the General Plan Update comply with the TMP and Andrews Strategic Plan Guiding Principles. The ADPs are designed to reduce vehicle trips and create walkable communities. The Proposed Action would also create a town center (“cool-zone”) designed to contribute to a “live, work, and play” atmosphere.

Traffic levels on the base would increase during the construction period if numerous projects were implemented in the same relative timeframe. This may create an increased level of congestion on and off the installation during peak traffic periods.

Long-term beneficial transportation impacts include road reconfigurations and intersection and entry-control facility improvements.

Implementation of the Proposed Action and associated transportation system upgrades and improvement projects would reduce vehicle trips, conserving fuel and trimming emissions.

Airfield Pavement and Lighting. The east runway would be utilized while the west runway is being reconstructed. This and the other proposed airfield repair and upgrade projects are not anticipated to have an adverse effect.

The Andrews airfield lighting system is rated as degraded; however, the upgrade of the airfield lighting control system has improved its condition. Implementation of the Proposed Action and associated airfield lighting system upgrades and improvement projects would result in a positive benefit.

Sanitary Sewer. The sanitary sewer system is owned and operated by Terrapin Utility Services, Inc. As part of the Proposed Action, new buildings and additions to buildings would connect to the existing, aging sanitary sewer system. Terrapin Utility plans to rehabilitate or replace existing deteriorated pipes and lift stations (AAFB 2010). The additional amount of wastewater from the implementation of the Proposed Action is not anticipated to exceed the sanitary sewer system capacity.

Potable Water. The water system infrastructure is owned and operated by Terrapin Utility Services, Inc. As part of the Proposed Action, new buildings and additions to buildings would connect to the existing, aging water system infrastructure. Terrapin Utility Services plans to replace all waterlines on base as part of the privatization

contract (AAFB 2010). The additional amount of potable water required is not anticipated to exceed the potable water system capacity.

Stormwater Drainage. Implementation of the Proposed Action would potentially result in increased demands on the stormwater drainage system. Although, the reorganization of land uses, consolidation of facilities, and stormwater retro-fitting of existing parking facilities is likely to mitigate any increase. As discussed in Section 4.5, BMPs and other stormwater controls would be utilized in accordance with regulations and MDE guidance. These BMPs would serve to limit the amount of stormwater entering the system during a storm event. In addition, large scale projects would entail construction of entirely new stormwater infrastructure and would be coordinated with local and state permitting authorities. The stormwater infrastructure, depending on what is constructed, could require periodic maintenance. For example, if sand filters are constructed, they would require cleaning and maintenance on a one- to five-year schedule.

Natural Gas. The WGL Company provides natural gas to Andrews. The demand placed on the utility company by the implementation of the Proposed Action is not anticipated to exceed the capacity of the existing natural gas system.

Electricity. The Potomac Electric Power Company provides electrical power to Andrews. Once inside the boundaries of the base, the Air Force is responsible for building and maintaining the electrical distribution system except within the housing area, which has been privatized. It is anticipated that the existing electrical system would be capable of meeting the demands of the actions associated with the Proposed Action.

Heating and Cooling. The Andrews heating and cooling system has been decentralized. New and renovated facilities would upgrade or install energy efficient HVAC systems, resulting in a positive benefit.

Liquid Fuels. The overall Andrews liquid fuels system is rated as adequate, although some parts are degraded (e.g., deteriorated pipelines). Implementation of the Proposed Action and associated liquid fuels system upgrades and improvement projects would result in a positive benefit.

4.6.2.2 No-Action Alternative

Under the no-action alternative, infrastructure improvements would rely on repairing infrastructure as problems arise on a reactionary basis versus a proactive basis. Installation improvement projects would be implemented in accordance with the 2003 General Plan.

4.7 HAZARDOUS MATERIALS AND WASTES

4.7.1 Methodology

Regulatory standards and guidelines have been applied in evaluating the potential impacts that could be caused by HAZMAT and wastes. The following criteria were used to identify potential impacts:

- A spill or release of a reportable quantity of a hazardous substance as defined by the USEPA in 40 CFR Part 302.
- Manufacturing, use, or storage of a compound that requires notifying the pertinent regulatory agency according to EPCRA.

- Exposure of the environment or public to any HAZMAT and/or waste through release or disposal practices.

4.7.2 Potential Impacts

4.7.2.1 Proposed Action

Construction and maintenance activities associated with the General Plan Update actions would require the use of hazardous substances, such as petroleum, oil, and lubricants (POL). During construction, use of these substances for fueling and equipment maintenance would have the potential for minor spills and releases. Use of BMPs, such as secondary containment for construction vehicles and storage containers, would ensure that these substances would not be released into the environment.

Asbestos may be encountered as structures are remodeled or demolished to accommodate new support facilities. It is current Air Force practice to remove exposed friable asbestos and manage other asbestos-containing materials in place, depending on the potential threat to human health. Friable asbestos, if encountered, would be removed by licensed contractors and disposed of in an appropriate disposal facility.

All HAZMAT purchased and used in day-to-day activities at Andrews is tracked through the HAZMART, which manages the procurement, handling, storage, and issuing of HAZMAT used. HAZMAT used in construction projects is monitored by Andrews through the submission of material data safety sheets and by comparing the proposed usage of HAZMAT with the actual usage reported at the completion of the construction project. The Air Force would continue to manage the 90-day central accumulation site for hazardous waste generators. Basic processes and waste handling and disposal

procedures for wastes generated at Andrews are identified in the Andrews Hazardous Waste Management Plan (USAF 2009b). These procedures are equipped to handle potential waste increases due to implementing the General Plan Update, associated ADPs, and CIP projects. It is possible, but unlikely, for one of the proposed projects to introduce a new waste stream; however, it would be characterized to determine the correct waste disposition. Andrews would continue to be responsible for ensuring that any hazardous waste generated is disposed of in compliance with all federal, state, and local regulations.

A Waiver to Construct is required for all proposed construction on an ERP site. The proposed construction would have to be evaluated with respect to site activity and environmental risks posed by the construction and ultimate use of the facility. Any construction or soil disturbance that would intercept an ERP site would require coordination with the base CES and testing to determine contamination levels and associated worker protection. If contamination levels were found to be higher than risk levels, then it would be disposed of at an approved disposal facility, and appropriate PPE would be required by construction workers.

Standard design and construction techniques, such as use of clean fill and vapor barriers, would be employed to ensure that no hazardous fumes permeate facilities. Environmental program managers review project designs and inspect construction activities to ensure that appropriate engineering controls are in place.

4.7.2.2 No Action Alternative

Under this alternative, installation improvement projects would be implemented in accordance with the 2003 General Plan. Pollution prevention measures are the same

for all construction and demolition projects, regardless of the existence or status of a General Plan.

4.8 BIOLOGICAL RESOURCES

4.8.1 Methodology

Evaluation of potential impacts to biological resources is based upon 1) the importance (legal, commercial, recreational, ecological, or scientific) of the resource, 2) the rarity of a species or habitat regionally, 3) the sensitivity of the resource to proposed activities, and 4) the duration of the impact. Impacts to biological resources are considered to be greater if priority species or habitats are adversely affected over relatively large areas and/or if disturbances cause reductions in population size or distribution of a priority species.

4.8.2 Potential Impacts

4.8.2.1 Proposed Action

Under this alternative, there would be minor impacts to biological communities of semi-improved grassland, cultivated grassland, mixed hardwood forest, and oak forest.

Vegetation. Proposed construction for general base-related projects would occur primarily within the main base and would be located on cultivated and semi-improved grasslands, as well as previously hardened surfaces. The non-native grassland vegetation that would be affected is managed and widespread on Andrews. Minor impacts to forested area would be anticipated. The size of the forested area to be cleared represents a negligible percentage of the remaining forest cover within the State of Maryland and a negligible percentage of forest cover at Andrews. Any specific project

involving the loss of forest habitat would undergo additional NEPA review. Any project impacting forest habitat would replace 60 percent of the lost forest canopy for any construction per Andrews Environmental Protection Standards for Contracts. Replacement trees must be native species, with a 2-to-5-inch caliper, and would be arranged in stands similar to those removed (AAFB 2007d). Any tree removal in the more developed portions of the base would need to replace trees at a one to one ratio. No projects in the General Plan Update are anticipated to impact vegetation at the Brandywine or Davidsonville site.

Wildlife. Proposed demolition and construction activities would generally occur within previously disturbed portions of the main base at Andrews. There would be no impacts outside the proposed project areas, and construction BMPs implemented during construction and demolition activities would minimize impacts to wildlife at and near the construction sites. New trees, shrubs, and other landscaping would provide additional urban habitat for birds and other wildlife. The construction activities associated with the Proposed Action would not impact wildlife reproduction, movement, or habitat.

Threatened and Endangered Species. No sensitive wildlife species would be affected by the Proposed Action, as they do not occur on the main base at Andrews or at the GSUs. Similarly, no sensitive plant species would be affected under the Proposed Action, as they are not known to occur at the proposed constructions sites. Should proposed projects occur in the vicinity of sensitive species, additional NEPA analysis would be required.

Wetlands. As described in Section 3.8, impacts to wetlands are permitted by the MDE and the USACE. The engineering design of the projects in the General Plan Update will

conform to the Air Force's policy to avoid wetland impacts whenever possible. Should wetland impacts be unavoidable, additional permitting and NEPA analysis would be required.

4.8.2.2 No Action Alternative

Under the No Action Alternative, development would continue using the 2003 General Plan. Impacts would be similar to those described in the Proposed Action.

4.9 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

4.9.1 Methodology

Under federal law, impacts to cultural resources could be considered adverse if the resources are eligible for listing, or are listed on, the NRHP, or are important to American Indian groups. An NRHP-listed or eligible resource is a historic property. An action results in impacts to a historic property when it alters the resource's characteristics, including relevant features of its environment or use, in such a way that it no longer qualifies for listing on the NRHP. Impacts to traditional resources are identified in consultation with affected American Indian or other traditional groups.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts can occur by physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or alter its setting; or neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the types and locations of proposed activities and determining the exact location of cultural resources that could be affected. Indirect impacts generally result from the

effects of project-induced population increases and the need to develop new housing areas, utility services, and other support functions to accommodate population growth. These activities and the subsequent use of the facilities can impact cultural resources.

4.9.2 Potential Impacts

4.9.2.1 Proposed Action

No impacts to significant or NRHP-listed or eligible cultural resources are expected to result from implementation of the Proposed Action. NRHP-eligible archaeological and architectural resources located on Andrews, consisting of the Belle Chance buildings and associated archaeological site (18PR447), are completely outside the area of the ADPs and construction and demolition areas proposed under the Proposed Action. No NRHP-eligible archaeological or architectural resources have been identified at the location of, or in the vicinity of, any actions associated with this alternative. The new construction and ground disturbances associated with the Proposed Action would occur in areas where the Air Force has determined there are no intact archaeological remains (AAFB 2009c). The NRHP-eligible archaeological and architectural resources on Andrews are outside of the Proposed Action construction and demolition areas.

Impacts to American Indian traditional resources are not expected with implementation of the Proposed Action. There are no known federally-recognized American Indian lands or resources at Andrews. The Proposed Action does not have “the potential to significantly affect Indian lands, treaty rights, or other tribal interests” as identified in *American Indian and Alaska Native Policy* (DoD 1999).

In the event unanticipated cultural resources are encountered, Andrews would consult with the Maryland SHPO or follow the stipulations outlined in the ICRMP. Should

unanticipated Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony be found during implementation of the Proposed Action, Andrews would contact the Maryland SHPO, the Maryland Commission on Indian Affairs, and the National Park Service before taking any further action.

4.9.2.2 No Action Alternative

No impacts to cultural resources are associated with the No Action Alternative. Installation improvement projects would be implemented in accordance with the 2003 General Plan. Cultural resources, if any were identified in the future, would be managed in compliance with federal law, Air Force regulation, and the Andrews ICRMP.

4.10 SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE AND PROTECITON OF CHILDREN

4.10.1 Methodology

Existing demographic and economic characteristics in Prince George's County and Anne Arundel County were analyzed as part of the *Final Environmental Assessment (EA) for FY07-11 BRAC Construction Requirements at Andrews AFB, Maryland* (i.e. BRAC EA). The BRAC EA assessed the potential socioeconomic impacts using an Economic Impact Forecast System (EIFS) model, which is associated with implementation of the facility construction and modifications required for BRAC. The EIFS is a computer-based model that calculates multipliers to estimate the direct and indirect effects of a given 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. An economic change

would be considered significant if the estimated changes would fall outside of the historical range of the ROI economic variation.

Social impacts would be considered significant if there were adverse effects on housing, utilities, or public services caused by implementation of the Proposed Action. This section also includes an analysis of any adverse disproportionate impacts on low-income and minority populations by implementing the Proposed Action. Included in this discussion is an analysis for potential health and safety risks that might disproportionately affect children.

4.10.2 Potential Impacts

4.10.2.1 Proposed Action

Implementation of the Proposed Action would not result in a net increase of personnel to Andrews, and therefore, there would be no adverse demands on housing, utilities, or public services within the ROI.

Implementation of the Proposed Action would have associated construction expenditures. Although short-term, these construction expenditures would have a direct, beneficial impact on the local economy. Employment associated with construction activities would benefit the local workforce but would also be temporary.

Environmental Justice. To comply with EO 12989, ethnicity and poverty status in the ROI have been examined and compared to state and national statistics to determine if minority or low-income groups could be disproportionately affected by the implementation of the Proposed Action. The review indicates that the residents living in the ROI (Prince George's County) have a substantially higher Black or African American

population (65.6 percent) than the state (29.7 percent) and the nation (12.9 percent). No other minority population is well represented in Prince George's County. No minority population is well represented in Anne Arundel County (Table 3-14). The 2009 per capita personal income for residents in Prince George's County ($30,657) is lower than the state ($34,389) but slightly higher than the nation ($26,409). The per capita personal income for Anne Arundel County is higher ($37, 138) than both the state and the nation.

The environment around Andrews is influenced by Air Force operations, land management practices, vehicular traffic, and emissions sources. However, implementation of the Proposed Action is not anticipated to create adverse environmental or health impacts. Consequently, the Proposed Action is not anticipated to cause disproportionate adverse impacts on minority or low-income populations.

In addition, there are no known environmental health or safety risks associated with implementation of the Proposed Action that could disproportionately affect children. The construction areas would be restricted to effectively bar any person, including children, from unauthorized access to Andrews. Therefore, implementation of the Proposed Action would not have disproportionate adverse impacts on children.

4.10.2.2 No Action Alternative

Under the No Action Alternative, no facilities would be constructed, repaired, or renovated to accommodate the 2010 General Plan. Installation improvement projects would be implemented in accordance with the 2003 General Plan and would not include the design principles such as promoting walkability, reducing VMT, and promoting sustainable practices that would have positive socioeconomic impacts.

4.11 LAND USE AND VISUAL RESOURCES

4.11.1 Methodology

The methodology to assess impacts on individual land uses requires identifying those uses, as well as affected land use planning and control policies and regulations, and determining the degree to which they would be affected by the proposal. Similarly, visual impacts are assessed by determining how, and to what extent, the Proposed Actions would alter the overall visual character of the area.

4.11.2 Potential Impacts

4.11.2.1 Proposed Action

The Proposed Action would include the implementation of the ADPs, construction of new facilities, and modification of existing facilities. Potential construction and renovations would generally be limited primarily to pre-developed areas. In addition, the proposed construction and renovation projects would be compatible with the future land uses at the installation.

Adverse land use impacts are not anticipated, because the future land use plan strongly resembles the pattern of existing development. Minor modifications have been made to enhance functional efficiency and ensure compatibility, including consideration of environmental issues. The proposed ADPs, facility construction, alteration, and demolition for Andrews would create a positive benefit to the existing land uses of these sites. Although implementation of the Proposed Action would require the conversion of some land currently designated as open space, it would not introduce any new land uses at the installation, and, therefore, would not be incompatible with any existing or future proposed installation land uses. The proposed ADPs and improvements would

provide the facilities and infrastructure necessary to meet the goals of the General Plan Update and the Team Andrews 25-Year Strategic Plan Guiding Principles. These ADPs and improvements would address current deficiencies and improve the function and efficiency of land use on the installation. The proposed structures and configuration would be more functional and conducive to missions at Andrews than the existing conditions.

All proposed facilities would be designed and constructed architecturally compatible with existing facilities. While the proposed construction does include large structures, the size and type of proposed buildings would be similar to other buildings on the installation. In addition, the structures described in the General Plan are well conceived and will enhance land use and the visual setting of the installation.

4.11.2.2 No Action Alternative

Under the No Action Alternative, facility development would occur in accordance with the 2003 General Plan. Land use and visual resources would remain as described in Section 3.

4.12 SUSTAINABILITY AND GREENING

4.12.1 Potential Impacts

4.12.1.1 Proposed Action

To the extent possible, the construction projects would be implemented using sustainable design concepts. Sustainable design concepts emphasize state-of-the-art strategies for site development, efficient water and energy use, and improved indoor environmental quality. All mandatory sustainability requirements (e.g. MDE, Leadership

in Energy and Environmental Design criteria, and EISA Section 438) would be incorporated into project designs.

4.12.1.2 No Action Alternative

Under this alternative, installation improvement projects would be implemented in accordance with the 2003 General Plan. Sustainability and greening measures are the same for all construction and demolition projects, regardless of the existence or status of a General Plan Update.

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5.0 CUMULATIVE IMPACTS AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE IMPACTS

Cumulative impacts to environmental resources result from the incremental effects of an action when combined with other past, present, and reasonably foreseeable future projects in the ROI. 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. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed (or anticipated over the foreseeable future) is required.

To identify cumulative effects, the analysis needs to address two fundamental questions:

1. Does a relationship exist such that affected resource areas of the Proposed Action or alternatives might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
2. If such a relationship exists, then does an EA reveal any potentially significant impacts not identified when the Proposed Action is considered alone?

The scope of the cumulative effects analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur, as well as a description of what resources could potentially be cumulatively affected.

When addressing cumulative impacts on wetlands and waters of the United States, the geographic extent for the cumulative effects analysis is the watershed in which the Proposed Action and alternatives have the potential to impact, primarily concentrating

on past, present, and reasonably foreseeable actions on and within Andrews and the surrounding ecosystem.

When addressing cumulative impacts on noise quality, the geographic extent for the cumulative effects analysis is the ROI in which the Proposed Action and alternatives have the potential to impact, primarily concentrating on past, present, and reasonably foreseeable actions on Andrews and in the surrounding community. The time frame for cumulative effects analysis centers on the timing of the Proposed Action and would continue into the foreseeable future.

As the General Plan Update is the major planning document for future development at Andrews, the majority of future projects are captured in this EA. The General Plan Update includes a variety of projects, including future development plans (Table 5-1), demolition projects (Table 5-2), and ADPs (see Section 2.1.2). The projects lists below are meant to be representative and include some projects already completed.

Table 5-1. Future Development Plans

Project Number	Project Title	Program	Activity Management Plan
AJXF 09-1505	Air Force Civil Engineer Support Agency (AFCESA) Fees	O&M	
AJXF 05-1510	Repair West Runway/Repair Existing Lights on Runway 1L/19R	O&M	U/T
AJXF 08-1585	Construct New Asphalt to Improve Dower House Road and Pearl Harbor Drive	O&M	T
AJXF 08-1514	Repair and Upgrade Dormitory Infrastructure Systems In Building 1624	O&M	F
AJXF 08-1515	Repair and Upgrade Dormitory Infrastructure Systems In Building 1631	O&M	F
AJXF 08-1516	Repair and Upgrade Dormitory Infrastructure Systems In Building 1657	O&M	F
AJXF 07-1516	Maintain/Recoat Hangar 19 Floor and Building 5016	O&M	F
AJXF 07-1520	Repair Taxiway Edge Lights E-E1-E2-E3-E4-E5-E6-E7-N-S-C-W1-W4/S	O&M	U

Table 5-1. Future Development Plans (Continued)

Project Number	Project Title	Program	Activity Management Plan
AJXF 06-1518	Repair/Replace Generators At Buildings 1280/1281/4972	O&M	U
JEBX 06-1506	Replace HVAC Fan Coil Units at Davidsonville Communications Site Building 1	O&M	F
AJXF 07-1518	Repair/Replace Generators at Buildings 1245/1287/1918/3014	O&M	U
AJXF 08-1550	Construct Modular Office on Hangar 19 Floor Building 5016	O&M	F
AJXF 09-1518	Repair/Replace Generators at Buildings 1288/1535/4016/5026	O&M	U
AJXF 08-1525	Repair/Correct American Disabilities Act Deficiencies at Building 1602	O&M	F
AJXF 08-1537	Convert Area to Recreation Spray-N-Play Area 1354/1356	O&M	F
AJXF 09-1515	Construct Additional Parking Area near Sq Ops Building 1658	O&M	T
AJXF 05-1544	Construct Additional Parking Near Hangar 19 Buildings 5016/5023	O&M	T
AJXF 07-1522	Construct/Install Fire Alarm Systems in Buildings 1358/1668/1889/1937/3109	O&M	F
AJXF 04-1560	Establish Pl-1 Clear Zone/Relocate RV/Storage Lot	O&M	R/T
AJXF 06-1543	Repair Airfield Signage	O&M	T
AJXF 06-1527	Re-grade Shoulder along Taxiway W-1 to Taxiway W-2	O&M	T
AJXF 07-1501	Replace Vehicle Gate System Near Building 5015	O&M	T
AJXF 06-9018	Replace 580 Windows And 31 Doors To 459 ARW HQ Building 3755	O&M	F
AJXF 04-1548G	Repair West Apron Phase 6b	O&M	T
AJXF 07-1543	Replace HVAC in Main Communications Building 1558	O&M	F
AJXF 05-1529	Repair Compass Rose	O&M	T
AJXF 921548F	Repair West Apron Phase 7	O&M	T
AJXF 08-1553	Repair Deteriorated Concrete on Pads 12/13/14	O&M	T
AJXF 981561D	Repair/Correct Interior Deluge System in Hangar 7 Building 1280	O&M	F
AJXF 08-1576	Repair/Replace Deluge Water Piping from North Hangar 10 to South Hangar 16	O&M	F
AJXF 09-155202	Replace Entire Roof To Horizontal Shop Building 5026	O&M	F
AJXF 09-1522	Repair/Replace Damaged Atrium BX Building1811	O&M	F

Table 5-1. Future Development Plans (Continued)

Project Number	Project Title	Program	Activity Management Plan
AJXF 03-1582	Repair Colonnade/Plaza Area-Phase I	O&M	T
AJXF 10-3006	AFDW/11 WG HQ	MILCON	F
AJXF 99-3007B	Consolidated Library/Education Center	MILCON	F
AJXF 05-3000	Physical Fitness Center	MILCON	F
AJXF 96-3004	BCE Complex	MILCON	F
AJXF 08-4000	ASA Phase II	MILCON	F
AJXF 03-3004	Consolidated Security Forces Facilities	MILCON	F
AJXF 06-3012	Runway 01L De-Icing System	MILCON	F

Source: AAFB 2010
F – Facility, O&M – Operations and Maintenance, R – Natural/Cultural Resources, T – Transportation, U – Utilities, W – Waste Management

Table 5-2. Demolition Program

Project Number	Project Title	Program	Activity Management Plan
AJXF 09-1509	VQ Administrative Facilities 1374 & 1375	O&M	F
AJXF 06-151901	Cottage Buildings 1504-1506-1507-1509-1510	O&M	F
AJXF 08-151901	Old Hazmat POL Facility Building 3229	O&M	F
AJXF 08-151904	Old Explosive Ordnance Disposal (EOD) Facility Building 3821	O&M	F
AJXF 08-151902	Old EOD Facility Building 3801	O&M	F
AJXF 08-151905	Shed Supply and Equipment Building 1775	O&M	F
AJXF 06-151905	Fire Tech Services Building 3812	O&M	F
AJXF 06-151903	Administrative Building 3802	O&M	F
AJXF 06-151915	Security Forces Operations Building 3538	O&M	F
AJXF 06-151909	Waste Treatment Building 1790	O&M	U
AJXF 06-1510	Demolish Altitude Chamber	O&M	F
AJXF 08-151903	Old Shed Facility Building 1224	O&M	F
AJXF 08151906	Old Heat Plant Building 1732	O&M	U
AJXF 08-1529	Concrete Blocks, Steam Units, Air Handlers Hangar 5	O&M	F
AJXF 08-1589	Building 1535	O&M	F
AJXF 06-1533	Dorm/Visiting Airman's Quarters Building 1660	O&M	F
AJXF 08-151910	Old Dorm Building 1656	O&M	F
AJXF 06-151907	Old Golf Course Club House Building 4442	O&M	F
AJXF 06-151912	Flying Training Classroom Building 1418	O&M	F
AJXF 06-151917	Dental Clinics Buildings 1601,1603	O&M	F

Source: AAFB 2010
F – Facility, O&M – Operations and Maintenance, R – Natural/Cultural Resources, T – Transportation, U – Utilities, W – Waste Management

Other major projects that have occurred recently at Andrews include the BRAC and BRAC-related projects listed below:

- AFOSI – move of HQ AFOSI (519 people) from Andrews to the Marine Corps Base in Quantico, Virginia
- Move of NCR-leased locations: Air Force to Andrews
    - Construction of new 163,000-square-foot (SF) administrative facility (804 personnel) and required parking (BRAC-National Capitol Region Relocation Administrative Facility [NCRRAF] building)
    - Total construction for the BRAC-NCRRAF building will include a 380,000-SF facility with the capability to hold more than 2,000 personnel
- Move of NCR-leased locations: ANG HQ to Andrews
    - Construction of new 150,000-SF administrative facility (605 personnel) and required parking
- Malcolm Grow Medical Center – hospital conversion to ambulatory clinic
    - Elimination of inpatient care
    - Demolition of current facility
    - Construction of new clinic with ambulatory surgery center
- Additional traffic lane at Pearl Harbor Gate
    - Addition of POV lane, due to increases in personnel and traffic at ANGRC and 113 WG

Additionally, the Presidential Inn (Visitors Quarters), SPDF, Temporary Lodging Facility, and the new Army and Air Force Exchange Service shopette/gas station have also been constructed, or are currently under construction.

Noise. Construction noise emanating off-site as a result of the Proposed Action and other recent actions would probably be noticeable in the immediate construction site vicinity, but would not be expected to create long-term adverse impacts. The acoustic environment on and near the airfield property is expected to remain relatively unchanged from existing conditions under proposed activities. Cumulative impacts from noise would be expected to be minimal.

Land Use. The proposed construction and demolition projects described under the Proposed Action and those associated with BRAC actions are expected to enhance overall installation planning and compatibility of functions at Andrews. Cumulative impacts to land use at Andrews are expected to be minimal.

Air Quality. Cumulative impacts to air quality from construction activities may cause temporary increases. These increases should not exceed conformity applicability *de minimis* limits for NO_x, VOC, and $PM_{2.5}$. The use of mitigations may be necessary to decrease PM on construction/demolition sites. Once construction is completed emissions would return to baseline levels. The implementation of the ADPs has the potential to decrease vehicle traffic with pedestrian-friendly areas and co-locating of services or facilities near the users, thus there is the potential for long-term decrease in air emissions.

Safety. Implementation of the Proposed Action does involve ground activities that could expose workers performing the required site preparation, grading, and building

construction to some risk. Strict adherence to all applicable occupational safety requirements would minimize the relatively low risk associated with these construction activities. All projects have been sited outside any quantity-distance arcs, as appropriate. Additionally, the proposed projects would include measures to enhance and correct AT/FP shortfalls as part of the facility designs. Cumulative impacts to safety are expected to be minimal.

Geologic Resources. The grading of existing soil and placement of structural fill for new facilities would not substantially alter existing soil conditions at the installation because, to a large extent, the construction described above is planned for areas where surface disturbance has previously occurred. BMPs would be used to limit soil movement, stabilize runoff, and control sedimentation. Relative cumulative impacts due to the Proposed Action to geologic resources are expected to be minimal.

Water Resources. The Proposed Action, as well as the recent BRAC-related projects at Andrews, are anticipated to potentially increase the amount of impervious surfaces at the installation. Although, the reorganization of land uses, consolidation of facilities, and stormwater retro-fitting of existing parking facilities is likely to mitigate any increase. To a large extent, the construction is planned for areas that already contain a large amount of impervious surface, and, therefore, much of the proposed construction would occur on existing impervious surfaces. All projects would comply with the current MDE guidance. Adherence to these requirements would minimize degradation of local water quality and would minimize potential impacts. It is expected that cumulative impacts to water resources would be minimal.

Biological Resources. In general, the Proposed Action and the recent BRAC-related projects involve areas that are highly altered by man. No cumulative impacts to federal or state listed species are anticipated. The Base Environmental Management Flight would coordinate, as necessary, with the USFWS prior to implementation of construction activities to ensure that impacts to sensitive species do not occur. Cumulative impacts to biological resources are expected to be minimal.

Cultural Resources. Activities associated with the Proposed Action and the BRAC-related projects are not expected to impact archaeological, architectural, or traditional resources. Cumulative impacts to cultural resources are expected to be minimal.

Socioeconomics. Activities associated with the Proposed Action and the BRAC-related projects are not expected to have any major adverse impacts on the economy in the ROI. Additionally, these projects are not expected to create adverse environmental or health effects, and, therefore, no disproportionately high or adverse impacts to minority, low-income, or youth populations are expected. Cumulative impacts to socioeconomics and environmental justice are expected to be minimal.

Infrastructure. The proposed construction and demolition projects associated with the Proposed Action and the BRAC-related projects would result in some temporary interruption of utility services and minor hindrance of transportation and circulation during construction activities. These impacts would be temporary, occurring only for the duration of the construction period. In general, infrastructure at Andrews would improve under these actions. Cumulative impacts to infrastructure are expected to be minimal.

HAZMAT and Waste. The proposed construction and demolition projects associated with the Proposed Action and the BRAC-related projects would generate construction

and demolition waste that would be recycled and/or taken to a local demolition landfill, as appropriate. There are no capacity issues associated with the existing landfills. HAZMAT and wastes would be handled, stored, and disposed of in accordance with applicable regulations. Some asbestos, LBP, and contaminated soils associated with ERP sites would be removed and disposed of per applicable regulations. On other sites, engineered caps or other land use controls could be used. Cumulative impacts as a result of HAZMAT and waste management are expected to be minimal.

5.2 IRREVERSIBLE AND IRRETRIEVALBE IMPACTS

NEPA CEQ regulations require environmental analyses to identify "...any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action should it be implemented" (40 CFR Section 1502.16). Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources, and the effects the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Building construction material such as gravel and gasoline usage for construction equipment would constitute the consumption of non-renewable resources.

The primary irretrievable impacts of the Proposed Action would involve the use of energy, labor, materials and funds, and the conversion of some lands from an undeveloped condition through the construction of buildings and facilities. However, all of the land proposed to be utilized has been developed in the past. Irretrievable impacts would occur as a result of construction, facility operation, and maintenance activities. The irretrievable loss of energy, labor, materials, and funds associated with

implementation of the Proposed Action would be inconsequential to the amount of these resources currently available and being used in other areas around Andrews. Direct losses of biological productivity and the use of natural resources from these impacts would be inconsequential.

6.0 LIST OF PREPARERS

This EA has been prepared under the direction of the 11 WG by Science Applications International Corporation (SAIC). The individual preparers of this document are listed below.

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APPENDIX A

OUT-YEAR PROJECT LISTS

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Table A-1. Out-Year Facility Requirements

Projects	Land Use	AMP
Contingency Training	459th Flightline	F
Fuel Cell	459th Flightline	F
459th Hangar Facility	459th Flightline	F
Naval Air Facility Washington Headquarters Buildings	East Administrative	F
113th HQ Building	East Administrative	F
East Fitness Center	East Administrative	F
Shoppette/Food Court	East Administrative	F
459th HQ Building	East Administrative	F
3 Hangar Facilities	East Administrative	F
316 BCE Complex	Industrial	F
DV Airlift Meal Prep Kitchen	Industrial	F
LRS Complex	Industrial	F
Base Supply	Industrial	F
Consolidated Command Post	Operations Quadrant	F
201st Squadron Operations	Operations Quadrant	F
89 AW/CC 89 AW/**OG**	Operations Quadrant	F
89th HQ Building	Operations Quadrant	F
201st HQ Building	Operations Quadrant	F
Security Forces Facility	Operations Quadrant	F
2 X Flight Training Facility	Operations Quadrant	F
Community Club	Town Center	F
VQ P2	Town Center	F
Fitness Center	Town Center	F
Education Center/Library	Town Center	F
MPF/TMO/FM	Town Center	F
Temporary Lodging Facility (Naval Air Facility)	Town Center	F
BX	Town Center	F
Commissary	Town Center	F
Dining Facility	Town Center	F
West Fitness Center	Town Center	F
316 WG/AFDW Headquarters Facility	West Administrative	F
Auto Center	West Administrative	F
Airmen Dormitory Complex	West Administrative	F
2 X Parking Structure	West Administrative	F
Air Conditioner Supply	West Flightline	F
1st Helicopter Squadron Hangar	West Flightline	F

Table A-1. Out-Year Facility Requirements (Continued)

Projects	Land Use	AMP
2 X “Big Box” Hangar – 89 AW	West Flightline	F
PAX Terminal	West Flightline	F
Base Operations Facility	West Flightline	F
FAA Tower	West Flightline	F
Fuel Cell sized for a C-5/B-747	West Flightline	F
Pathfinder Fence Relocation	West Flightline	F
COMBS Facility	West Flightline	F
West Fire Station	West Flightline	F
“Big Box” Hangar – Army/TA	West Flightline	F
C-5/B-747 sized Fuel Cell	West Flightline	F

AMP – Activity Management Plan, F – Facilities

Table A-2. Out-Year Demolition Program

Building#	Project Title	AMP
1190	Family Housing Management	F
1191	Family Support Center	F
1201	In-Flight Kitchen	F
1202	Supply and Equipment Warehouse	F
1203	CRT Rectn	F
1205	NAVID Shop	F
1206	Vehicle Ops Admin	F
1208	Disaster Preparedness	F
1209	Sanitary Sewage Dump Station	U
1216	Control Tower	F
1220	Base Operations	F
1235	MWR Supply/ NAF Storage	F
1236	Auto Skills Center	F
1240	Group HQ 89OG	F
1245	PAX Terminal	F
1281	SP CEN COM	F
1285	EVAC Control Center	F
1287	Fire Station #1	F
1288	Hangar 18	F
1290	Auto Garage	F
1353	OPG Storage	F
1384	BOQ Navy #1 –Coral Sea	F
1385	BOQ Navy #1 – Midway	F
1398	Area Defense & Child Care	F
1413	Education Center	F
1414	Base Personnel Office	F
1419	HQ 89 AW	F
1420	Squadron Operations	F
1429	Elect Gen Power Plant	U
1442	Recreation Center	F
1444	West Fitness Center	F
1445	Recreation Center	F
1513	Chiller Building	U
1519	Detached Family Garage	F
1522, 1524, 1527	CE Maintenance Shop	F
1526	Communication Building	F
1536	Communication Facility	F
1600	Airmen Dormitory	F
1605	POV Wash Rack	F
1618	Supply & Equipment Warehouse	F
1624	Airmen Dormitory	F
1628	Airmen Dining Hall	F
1631	Airmen Dormitory	F
1642	Base Library	F
1672	Bowling Alley	F
1673	Retail Exchange Store	F
1682	Credit Union	F
1685	Gas Station/Starbucks	F
1705	Hazard Storage	F
1706	OPG Storage	F
1708	Supply and Equipment Warehouse	F
1711	Avionics Shop	F
1713	Communications Facility	F
1715	Supply and Equipment Warehouse	F
1723	Oil and Grease Storage	F
1730	Fire Protection Water Storage	U
1731	Water Pump Storage	U
1732	Central Heating Plant	U
1735	PMEL Building	F
1738,1778	Admin Office/ Non Air Force	F
1771	Air Freight Terminal	F
1781	Vet Clinic	F
1791	Aircraft General Purpose	F
1805	Retail Exchange Store	F
1810	Burger King	F
1931	SURV Equipment Shop	F
3158	Hangar 13 (Navy)	F
3159	MM Van Fac Head	F
3160	Storage	F
3188	Hangar 12 (Navy)	F
3198	NAVY HQ	F
3283	F/A-18 Simulator/ MAG Navy	F
3285	AFOSI	F
3286	Gas Station	F
3296	BE Storage Shed	F
3297	Electric Switch Station	F
3410	Storage Shed	F
3415	Communication Facility	F
3416, 3417	HSE Supply and Storage	F
3422	Med Storage	F
3423, 3424	Medical/Dental Education & Training	F
3451	BE Storage Shed	F
3455	Vehicle Storage Rack	F
3466	Engineering Admin	F
3487	Exchange Sales Store	F
3534	HQ Center	F
3537	SF Ops/Warehouse	F
3547	Supply & Equipment Warehouse	F
3613	Squadron Ops	F
3615	Education Center	F
3616	East Tele switch	F
3617	Wpns System Management Facility	F
3623	Airport Training Facilities	F
3629	Fuel System Maintenance Dock	F
3635	Hangar 11	F
3640	Hangar 10	F
3641	Hazard Storage	F
3642	Storage Liquid Oxygen	F
3705	East Fitness Center	F
3710	316th Engineering Flight	F
3743	459th Services Flight	
3744, 3755-3757, 3766-3767	Res Force OPL Training	F
3745	459th Recruiting	F
3807	Supply & Equipment Warehouse	F

AMP – Activity Management Plan, F – Facilities, U - Utilities
Note: This table was taken from the General Plan Update with modifications to Buildings listed as 1419, 1520, 1732, and 3409.

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APPENDIX B

CORRESPONDENCE

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COMMENTS AND RESPONSES

This appendix contains comments received during the public comment period for this environmental assessment. The Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) process for the Description of Proposed Action Alternatives (DOPAA) was conducted from 29 October to 22 November 2010. The public and agency review of the Draft EA began with a publication of the notice of availability in the Washington Times on 11 February 2011. The public review period continued through 14 March 2011. Additional time was provided to ensure that all agency comments were received. Copies of the Draft EA were available for review at the Upper Marlboro Branch Library of the Prince George's County Memorial Library System at 14730 Main St. Upper Marlboro, MD 20772 and on the project website at AndrewsGeneralPlanEA.com.

No comments were received from the general public. Agency comments for both the DOPAA and Draft EA are included in this appendix. Agency responses were received from the Maryland Department of Historic Trust, the Maryland Department of the Environment, Prince George's County, Maryland Military Department, Maryland Department of Business and Economic Development, and the Maryland Department of Planning.

In accordance with the National Environmental Policy Act (NEPA), agency comments were reviewed and have been incorporated into this EA as described below. The Maryland Military Department, the Maryland Department of Business and Economic Development and the Maryland Department of Planning found this project to be consistent with their plans, programs, and objectives.

The Maryland Department of the Environment, and the Maryland Historical Trust stated that their finding of consistency is contingent upon taking actions described in their response. The Maryland Historical Trust indicated that the project will not have an adverse effect on historic properties provided that the Maryland Historical Trust continues to review all projects deemed to have an effect on historic resources or settings. The Maryland Department of Energy listed twelve contingent statements that need to be completed to maintain consistency with their agency. Andrews AFB will comply with the requirements listed by both the Maryland Department of Energy and the Maryland Historical Trust. Those requirements are included in this Appendix for additional reference.

The Prince George's County Department of Public Works and Transportation commented on infrastructure issues associated with areas in close proximity to the Andrews AFB installation boundary. These included capacity issues with storm drain/stormwater management systems, roadway capacity, and transit systems.

Andrews would like to thank the County for their comments regarding infrastructure surrounding the installation and the need for additional studies in these areas. However it was the not the intent of the Base General Plan Update or this EA to conduct studies or projects outside of the Andrews installation. The General Plan Update is a dynamic planning tool that focuses on land use planning and improvements within the installations boundaries. Unlike previous activities associated with BRAC actions the General Plan Update does not include an increase in personnel but instead tries to plan for the efficient use of existing space and facilities on the installation while leaving capacity for future mission expansions should there be a need to bring new missions to the installation.

Should a new mission be assigned to Andrews involving an increase in personnel then additional studies regarding the impacts to infrastructure will be considered.

Andrews is aware of several historic or ongoing studies that evaluated the impacts of the BRAC action on both Andrews and the surrounding traffic infrastructure. The Maryland State Highway Administration had conducted a study and prepared a report for intersections within their jurisdiction. This report is “Traffic and Intersection Improvement Studies for BRAC – Andrews Air Force Base” (November 2009). Also Prince George’s County is conducting studies and preparing a report on intersections within their jurisdiction. The report is the “Andrews Transportation Study” and is being prepared on behalf of the Maryland-National Capital Park and Planning Commission.

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Interagency and Intergovernmental Coordination for Environmental Planning (IICEP)

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Comments

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MDP
Maryland Department of Planning

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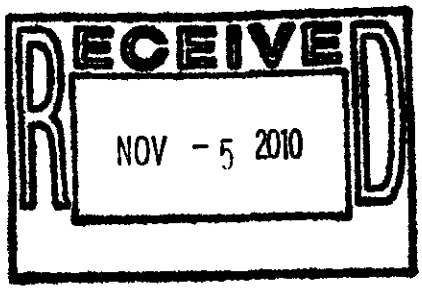
Governor
Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

October 29, 2010



Mr. Brian Dolan
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U.S. Department of the Air Force
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STATE CLEARINGHOUSE REVIEW PROCESS
State Application Identifier: MD20101029-0994
Reviewer Comments Due By: November 22, 2010
Project Description: Scoping prior to preparation of Environmental Assessment: General Plan Update: consider two alternatives including "no action"
Project Location: Prince George's County
Clearinghouse Contact: Bob Rosenbush

Dear Mr. Dolan:

Thank you for submitting your project for intergovernmental review. Participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps ensure project consistency with plans, programs, and objectives of State agencies and local governments. MIRC enhances opportunities for approval and/or funding and minimizes delays by resolving issues before project implementation.

The following agencies and/or jurisdictions have been forwarded a copy of your project for their review: the Maryland Department(s) of Business and Economic Development, Health & Mental Hygiene, Housing and Community Development, Transportation, the Environment, Natural Resources; the Maryland Military Department; the County of Prince George's; the Maryland-National Capital Park and Planning Commission in Prince George's County; and the Maryland Department of Planning; including the Maryland Historical Trust. They have been requested to contact your agency directly by **November 22, 2010** with any comments or concerns and to provide a copy of those comments to the State Clearinghouse for Intergovernmental Assistance. Please be assured that after **November 22, 2010** all MIRC requirements will have been met in accordance with Code of Maryland Regulations (COMAR 34.02.01.04- .06). ~~The project has been assigned a unique State Application Identifier that should be used~~ on all documents and correspondence.

Please complete and return it within 14 days of the date of this letter. If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at brosenbush@mdp.state.md.us. Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey

Linda C. Janey, J.D., Assistant Secretary
for Clearinghouse and Communications

LCJ:BR
Enclosure(s)
cc: *10-0994_NDC.NEW.doc*

Tammy Edwards – DBED*	Margaret Carlisle – MDOT*	Beverly Warfield – PGEO*
Elizabeth Barnard – DHMH*	Joane Mueller – MDE*	Kate Frtiz – M-NCPPCP*
Hara Wright-Smith – DHCD*	Roland Limpert – DNR*	Mike Paone - MDPL*
	Lawrence Leone – MILT*	Beth Cole – MHT*

Maryland Department of Planning

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

December 17, 2010

Mr. Brian Dolan
Chief, Asset Managment Flight, 11CES/CEAO
U.S. Department of the Air Force
ATTN: Anne Hodges
3466 North Carolina Avenue
Andrews Air Force Base, MD 20762

STATE CLEARINGHOUSE REVIEW – ADDITIONAL REVIEWER COMMENT RECEIVED

State Application Identifier: MD20101029-0994
Project Description: Scoping prior to preparation of Environmental Assessment: General Plan Update: consider two alternatives including "no action"
Project Location: Prince George's County
Clearinghouse Contact: Bob Rosenbush

Dear Mr. Dolan:

We are forwarding the comments made by this Department, including the Maryland Historical Trust regarding the referenced project for your information. This Department, including the Maryland Historical Trust, stated "The U.S. Department of the Air Force must consult with the Maryland Historical Trust as planning proceeds to complete the Section 106 review of proposed actions, as applicable."

Should you have any questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at brosenbush@mdp.state.md.us. Your cooperation and attention to the review process is appreciated.

Sincerely,

Linda C. Janey

Linda C. Janey, J.D., Assistant Secretary
for Clearinghouse and Communications

LCJ:BR

cc: Beth Cole - MHT

10-0994_OLRR.OTH.doc

Agency Comments – Public Comment Period

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Maryland Department of Planning

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

April 5, 2011

Ms. Anne Hodges, Project Manager
U.S. Department of the Air Force
11 CES/CEAO
3466 North Carolina Avenue
Andrews AFB, MD 20762-4803

STATE CLEARINGHOUSE RECOMMENDATION

State Application Identifier: MD20110216-0065
Applicant: U.S. Department of the Air Force
Project Description: Environmental Assessment: General Plan Update for Joint Base Andrews-Naval Air Facility
Project Address: Washington, D.C., Maryland
Project Location: County of Prince George's
Approving Authority: U.S. Department of Defense (USAF)
Recommendation: Consistent Contingent Upon Certain Actions

Dear Ms. Hodges:

In accordance with Presidential Executive Order 12372 and [Code of Maryland Regulation (COMAR 34.02.01.04-.06)], the State Clearinghouse has coordinated the intergovernmental review of the referenced project. This letter, with attachments, constitutes the State process review and recommendation based upon comments received to date. This recommendation is valid for a period of three years from the date of this letter.

Review comments were requested from the Maryland Departments of Business and Economic Development, the Environment, Transportation, Natural Resources, the Maryland Military Department, Prince George's County, the Maryland-National Capital Park and Planning Commission in Prince George's County, and the Maryland Department of Planning, including the Maryland Historical Trust. As of this date, the Maryland Department of Natural Resources has not submitted comments. **This recommendation is contingent upon the Applicant considering and addressing any problems or conditions that may be identified by their review. Any comments received will be forwarded.** The Maryland Department of Transportation, and the Maryland-National Capital Park and Planning Commission in Prince George's County had no comments.

The Maryland Department of the Environment (MDE), and the Maryland Historical Trust stated that their findings of consistency is contingent upon the Applicant taking the actions summarized below. The Maryland Department of the Environment submitted these contingent comments.

1. If the Applicant suspects that asbestos is present in any portion of the structure that will be renovated/demolished, then the applicant should contact the Community Environmental Services Program, Air and Radiation Management Administration at (410) 537-3215 to learn about the State's requirements for asbestos handling.

2. If boilers or other equipment capable of producing emissions are installed as a result of this project, the applicant is requested to obtain a permit to construct from MDE's Air and Radiation Management Administration for this equipment, unless the applicant determines that a permit for this equipment is not required under State regulations pertaining to "Permits, Approvals, and Registration" (COMAR 26.11.02.). A review for toxic air pollutants should be performed. Please contact the New Source Permits Division, Air and Radiation Management Administration at (410) 537-3230 to learn about the State's requirements and the permitting processes for such devices.

3. The Applicant is encouraged to plan for the maximum utilization of carpools and public transit by employees providing preferential carpool/vanpool parking and bus shelters for commuters that use these methods of transportation. This will minimize the adverse impact of additional traffic generated by the proposed project. Please contact the Mobile Sources Program, Air and Radiation Management Administration at (410) 537-3270 for additional information.

4. If a project receives federal funding, approvals and/or permits, and will be located in a nonattainment area or maintenance area for ozone, carbon monoxide, or fine particulate matter (pm 2.5), the applicant should determine whether emissions from the project will exceed the thresholds identified in the federal rule on general conformity. If the project emissions will be greater than these thresholds, contact the Planning Division of the Air Quality Planning, Air and Radiation Management Administration, at (410) 537-3240 for further information regarding threshold limits.

5. Project should support resource conservation and pollution prevention through land use and transportation designs that provide alternatives to single occupant vehicle use.

6. Any above-ground or underground petroleum storage tanks that may be utilized must be installed and maintained in accordance with applicable State and federal laws and regulations. For demolition, any aboveground or underground petroleum storage tanks that may be on site must have the contents and tanks removed. Contact the Oil Control Program at (410) 537-3442 for additional information

7. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with (COMAR 26.10). Contact the Oil Control Program at (410) 537-3442 for additional information.

8. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3318 for additional information.

9. The Hazardous Waste Program should be contacted directly at (410) 537-3343 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations.

10. The Hazardous Waste Program should be contacted at (410) 537-3343 prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and federal laws and regulations.

11 Any contract specifying "lead paint abatement" must comply with Code of Maryland Regulations (COMAR 26.16.01) – Accreditation and Training for Lead Paint Abatement Services. If a property was built before 1950 and will be used as rental housing, then compliance with (COMAR 26.16.02) – Reduction of Lead Risk in Housing; and Environment Article Title 6, Subtitle 8, is required. Additional guidance regarding projects where lead paint may be encountered can be obtained by contacting the Environmental Lead Division at (410) 537-3825.

12. The proposed project may involve rehabilitation, redevelopment, revitalization, or property acquisition of commercial, industrial property. Accordingly, MDE's Brownfields Site Assessment and Voluntary Cleanup Programs (VCP) may provide valuable assistance to you in this project. These programs involve environmental site assessment in accordance with accepted industry and financial institution standards for property transfer. For specific information about these programs and eligibility, please contact James Carroll, Program Administrator, Land Restoration Program at (410) 537-3437. MDE also enclosed contingent comments that relate to water-quality standards. See the attached comments, and map.

The Maryland Historical Trust (MHT) has determined that the project will have "no adverse effect" on historic properties provided that MHT continues to review all projects deemed to have an effect on historic resources or settings. See the attached letter.

Prince George's County found this project to be generally consistent with their plans, programs, and objectives, but included certain qualifying comments that are contained in the attached memorandum. Prince George's County recommended that the Environmental Assessment should include an infrastructure report concerning: existing storm drain/storm water management systems, roadway capacity and transit systems.

The Maryland Military Department; the Maryland Department of Business and Economic Development, and the Maryland Department of Planning found this project to be consistent with their plans, programs, and objectives.

Any statement of consideration given to the comments should be submitted to the approving authority, with a copy to the State Clearinghouse. The State Application Identifier Number must be placed on any correspondence pertaining to this project. The State Clearinghouse must be kept informed if the approving authority cannot accommodate the recommendation. Please remember, you must comply with all applicable state and local laws and regulations. If you need assistance or have questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at brosenbush@mdp.state.md.us. **Also please complete the attached form and return it to the State Clearinghouse as soon as the status of the project is known.** ***Any substitutions of this form must include the State Application Identifier Number.*** **This will ensure that our files are complete.**

Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey

Linda C. Janey, J.D., Assistant Secretary
for Clearinghouse and Communications

LCJ:BR
Enclosures
cc: Beth Cole - MHT
Tammy Edwards - DBED
Joane Mueller - MDE
Nichol Conley - MDOT
Joe Abe - DNR
Lawrence Leone - MILT
Beverly Warfield – PGEO
Kate Fritz – M-NCPPCP
Mike Paone – MDPL
11-0065_CRR.CLS

Draft EA/FONSI:General Plan Joint Andrews Base - Naval Air

Maryland Department of the Environment - Science Services Administration

REVIEW FINDING: R2 Contingent Upon Certain Actions (MD2011 0216-0065)

The following additional comments are intended to alert interested parties to issues regarding water quality standards. The comments address:

A. Water Quality Impairments: Section 303(d) of the federal Clean Water Act requires the State to identify impaired waters and establish Total Maximum Daily Loads (TMDLs) for the substances causing the impairments. A TMDL is the maximum amount of a substance that can be assimilated by a waterbody such that it still meets water quality standards.

Planners should be aware of existing water quality impairments identified on Maryland's 303(d) list. The Plan areas are located in three watersheds. Andrews Airforce Base is situated in the Piscataway Creek watershed, identified by the MD 8-digit code 02140203. Brandywine Receiver Station is situated in the Mattawoman Creek watershed, identified by the MD 8-digit code 02140111. Davidsonville Transmitter Station is situated in the Patuxent River Upper watershed, identified by the MD 8-digit code 02131104. All of which are currently impaired by several substances and subject to regulations regarding the Clean Water Act.

Planners may find a list of nearby impaired waters by entering the 8-digit basin code into an on-line database linked to the following URL: http://www.mde.state.md.us/programs/Water/TMDL/Integrated303dReports/Pages/303d.aspx.

This list is updated every even calendar year. Planners should review this list periodically to help ensure that local decisions consider water quality protection and restoration needs. **Briefly, the current impairments that are relevant to the Plan include the following:**

Piscataway Creek (02140203):

Nutrients:	**Tidal. A TMDL is pending development.**
Sediments:	**Tidal. A TMDL is pending development.**
Bacteria:	**Non-tidal. A TMDL has been written and approved by EPA.**
Biological:	**Non-tidal. A TMDL is pending development.**

AD20110216-0065

Mattawoman Creek (02140111)
Nutrients: Tidal. A TMDL has been written and approved by EPA.
Biological: Non-tidal. A TMDL is pending development.

Patuxent River upper (02131104)
Bacteria: Non-tidal. A TMDL has been written and submitted to EPA.
Sediment: Non-tidal. A TMDL has been written and submitted to EPA.
Biological: Non-tidal. A TMDL is pending development.

B. TMDLs: Development and implementation of any Plan should take into account consistency with TMDLs developed for the impaired waterbodies referenced above. Decisions made prior to the development of a TMDL should strive to ensure no net increase of impairing substances. TMDLs are made available on an updated basis at the following web site: http://www.mde.state.md.us/programs/Water/TMDL/CurrentStatus/Pages/Programs/WaterPrograms/TMDL/Sumittals/index.aspx

Special protections for high-quality waters in the local vicinity, which are identified pursuant to Maryland's anti-degradation policy;

C. Anti-degradation of Water Quality: Maryland requires special protections for waters of very high quality (Tier II waters). The policies and procedures that govern these special waters are commonly called "anti-degradation policies." This policy states that "proposed amendments to county plans or discharge permits for discharge to Tier II waters that will result in a new, or an increased, permitted annual discharge of pollutants and a potential impact to water quality, shall evaluate alternatives to eliminate or reduce discharges or impacts." These permitted annual discharges are not just traditional Point Sources, it can include all discharges such as Stormwater.

Andrews Airforce Base is within the Catchment (watershed) of the segment Piscataway Creek 1, and Brandywine Receiver Station is within the Catchment (watershed) of the segment Mattawoman Creek 1, which have been designated as Tier II streams. (See attached map)

Please See ADDITIONAL COMMENTS regarding this issue.

Planners should be aware of legal obligations related to Tier II waters described in the Code of Maryland Regulations (COMAR) 26.08.02.04 with respect to current and future land use plans. Information on Tier II waters can be obtained online at: http://www.dsd.state.md.us/comar/getfile.aspx?file=26.08.02.04.htm and policy implementation procedures are located at http://www.dsd.state.md.us/comar/getfile.aspx?file=26.08.02.04-1.htm

MD 20110216-0065

Planners should also note that since the Code of Maryland Regulations is subject to periodic updates. A list of Tier II waters pending Departmental listing in COMAR can be found, with a discussion and maps for each county, at the following website:
http://www.mde.state.md.us/programs/researchcenter/EnvironmentalData/Pages/researchcenter/data/waterqualitystandards/antidegradation/index.aspx

ADDITIONAL COMMENTS

Chesapeake Bay TMDL
With the completion of the Chesapeake Bay TMDL, the Chesapeake Bay Program Office (CBPO) will be able to provide loading data at a more refined scale than in the past. MDE will be able to use the CBPO data to estimate pollution allocations at the jurisdictional level (which will include Federal Facilities) to provide allocations to the Facilities. These allocations, both Wasteload (WLA) and Load Allocation (LA) could call for a reduction in both Point Sources and Nonpoint Sources.

Stormwater
The project should consider all Maryland Stormwater Management Controls. Site Designs should consider all Environmental Site Design to the Maximum Extent Practicable and "Green Building" Alternatives. Designs that reduce impervious surface and BMPs that increase runoff infiltration are highly encouraged.

Further Information:
http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Pages/Programs/WaterPrograms/SedimentandStormwater/swm2007.aspx

Environmental Site Design (Chapter 5):
http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Documents/www.mde.state.md.us/assets/document/chapter5.pdf

Redevelopment Regulations:
http://www.dsd.state.md.us/comar/comarhtml/26/26.17.02.05.htm

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Appendix 2

Table 1: Maryland riparian buffering requirements in Tier II watersheds developed from modified USDA Forest Service recommendations*.

Adjusted Average Optimal Buffer Width Key for HQ Waters (minimum width 100 feet)				
	Slopes			
Soils	0-5%	5-15%	15-25%	>25%
ab	100	130	160	190
c	120	150	180	210
d	140	170	200	230

*Johnson, C. W. and Buffler, S. 2008. Riparian buffer design guidelines for water quality and wildlife habitat functions on agricultural landscapes in the Intermountain West, Gen. Tech. Rep. RMRS-GTR-203. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Also Available at http://www.fs.fed.us/rm/pubs/rmrs_gtr203.pdf .

MD20110216-0065

Appendix 1

MARYLAND DEPARTMENT OF THE ENVIRONMENT

MDE 1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101

Martin O'Malley
Governor

Shari T. Wilson
Secretary

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Deputy Secretary

JUN - 8 2009

The Honorable Julia W. Gouge, President
Board of County Commissioners
Carroll County, Maryland
County Office Building
Room 300
225 North Center Street
Westminster MD 21157

Dear Commissioner Gouge:

The Maryland Department of the Environment (MDE) has completed a final review of the **Fall 2008 Amendment Cycle** (Cycle) to the 2007 Carroll County Water and Sewerage Plan. The Cycle consists of five amendments. Three amendments involve Hampstead: annexations Nos. 30 [Summit Street/Taylor Street] and No. 32 [Crockett Property]; and, the Hampstead Industrial Exchange, Solo Cup Lot 2, & IDA Property. For the other two amendments, one is for the Liberty Road Crossing Multi-Use water and wastewater systems – for a proposed business center near Taylorsville; and, the final amendment is for the New Windsor Agriculture Easement Properties.

During MDE's review of the Cycle, the Maryland Department of Planning (MDP) advised MDE that the Cycle is consistent with the Carroll County Comprehensive Plan (enclosed comments). You may recall that MDE had expressed water resource concerns for the three Hampstead amendments and for the Liberty Road Crossing amendment, and needed more time to complete a review of these four amendments. The review period, set to expire on March 10, 2009, was extended until June 8, 2009. The amendment for the New Windsor Agriculture Easement Properties was approved by MDE in my enclosed March 3, 2009 letter to you.

For the three Hampstead amendments, MDE's Water Supply Program (WSP) is concerned that proposed growth may exceed the Town's water supply capacity (enclosed comments). In an effort to assist Hampstead to strengthen its water supply, a new water appropriation permit has been issued by MDE. While this important action may be considered to be a short term benefit, concerns remain as to the viability of the water supply for future growth.

The Department requests that Hampstead prepare a water capacity management plan and forward it to the WSP for review by December 31, 2009. By copy of this letter, representatives of Hampstead are advised to contact the WSP by calling 410-537-3702. The Hampstead amendments are approved with the condition that water resource issues remain which may impact future growth.

For the Liberty Road Crossing amendment, MDE's Science Services Administration (SSA) has performed a screening analysis for potential impacts to the Tier II watershed above the Gillis Falls I Tier II segment. The SSA advises that their analysis indicates no probable impacts due to the size, location, and nature of the development relative to both the Tier II segment and the watershed's assimilative capacity. The SSA has determined that this project will not require further anti-degradation review.

The Department requests that the County implement environmental site design (ESD) to the maximum extent practicable for Liberty Road Crossing to minimize any potential water quality impacts associated with storm water runoff generated from impervious or other hard surfaces. Since the development is more than 150 meters from the closest stream channel, the Department has no current cause for concern regarding project impacts to riparian buffers. Implementing ESD now will help protect the watershed from any cumulative impacts associated with this and future development activities.

By copy of this letter, representatives of 2515 Liberty, LLC and the County may contact the SSA by calling 410-537-3572 to discuss the analysis, and, for specific questions regarding MDE's Sediment, Stormwater, and Dam Safety program (SSDS) and ESD, please call 410-537-3561. The Liberty Road Crossing amendment is approved.

This action completes MDE's review of the Cycle, as required by Section 9-507 of the Environment Article of the Annotated Code of Maryland. If you need further assistance on these matters, please contact Virginia F. Kearney, Deputy Director at 410-537-3512, toll-free at 800-633-6101 or by e-mail at vkearney@mde.state.md.us.

Sincerely,

Virginia F Kearney for

Jay G. Sakal, Director
Water Management Administration

Enclosures

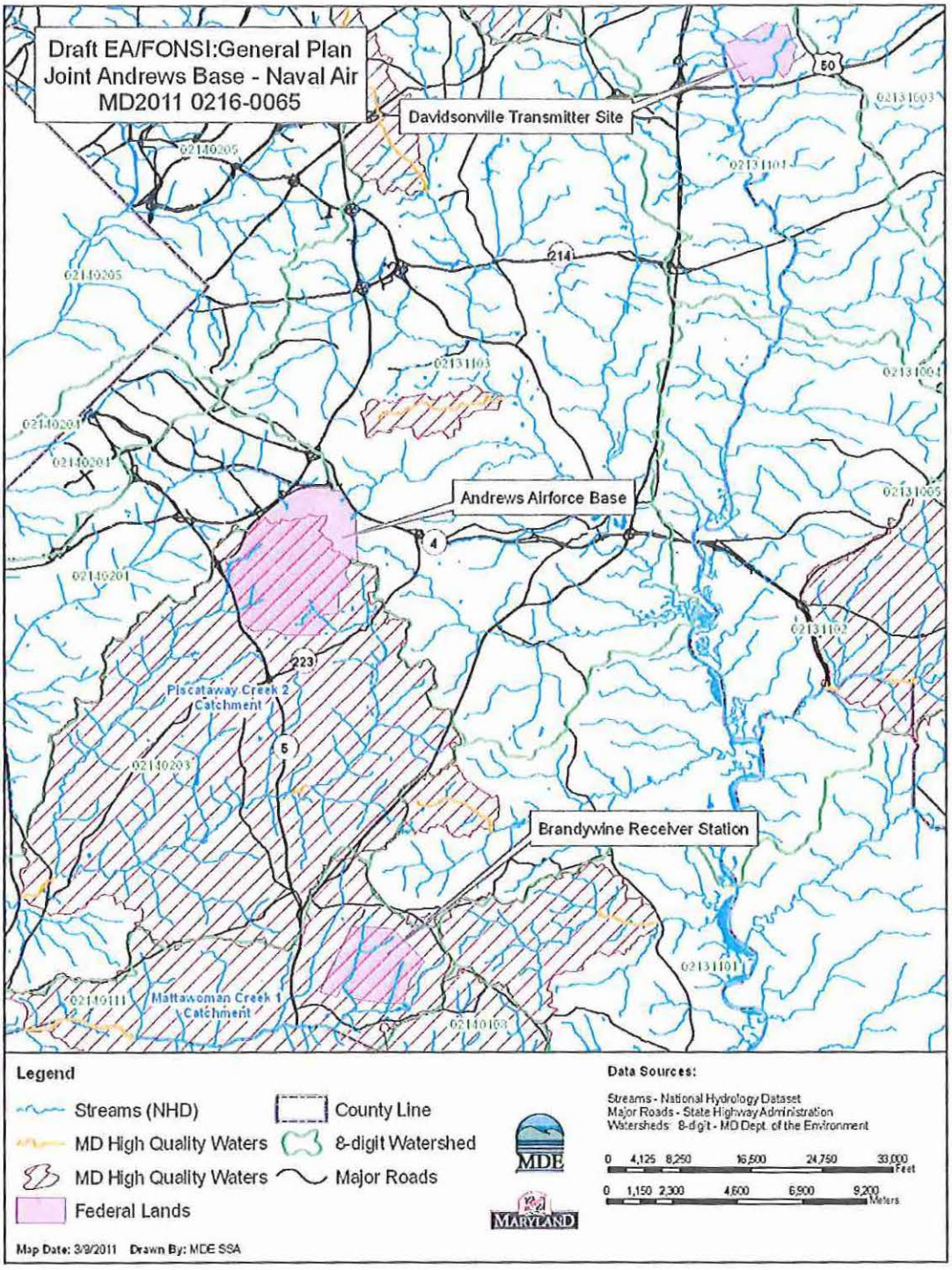
AD20110216-0065

Antidegradation

Table 1: General Comments regarding Current Antidegradation Implementation Procedures.

For all development projects that do not implement a no-discharge alternative and therefore may adversely impact Tier II waters, MDE will require:	
1.	MDE approval of all design elements and practices required by mandatory implementation of Environmental Site Design (ESD) to the maximum extent practicable and applicable innovative development practices as currently required by COMAR 26.08.02.04-1(K)(2) and the 2007 Stormwater manual (see, http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/swm2007.asp). MDE is also recommending ESD be employed for projects that are individually of minimal impact to Tier II resources, to account for the total cumulative effects of each project. Current precedents for this requirement/recommendation can be found in Appendix 1 to these comments).
2.	Mandatory Riparian buffers determined in consideration of slope and soil type, with a minimum of 100 ft in all areas. Buffer requirements are based on similar requirements in the Critical Areas Program and the Chesapeake Bay Riparian Buffer/Reforestation Goals and other water quality objectives). Additional buffers beyond the minimum 100' will be required on sites with slopes greater than 5% and/or with poorly infiltrating soils. See Appendix 2 for guidance.
3.	Biological, chemical, and flow monitoring in the Tier II watershed by the applicant to determine remaining AC and any cumulative impacts of current and future developments for larger projects and/or in watersheds with little remaining forest buffering/AC.
Where 1 and 2 above cannot be fully implemented:	Detailed hydrologic analysis to demonstrate assimilative capacity will be maintained. This may include maintenance of watershed-wide forest cover (generally, >=25%), a percentage based on Chesapeake Bay Forest Cover and Land Conservation Goals and the Forest Conservation Act, and analysis of current Tier II watershed data. If it is determined by MDE assimilative capacity still will not be maintained after the above analysis, an SEJ will be required.

MD2011 0216-0065



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MD 20110216-0065

Maryland Department of Planning
Maryland Historical Trust

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary

Matthew J. Power
Deputy Secretary

March 9, 2011

Ms. Anne Hodges
11 CES/CEAO
3466 North Carolina Avenue
Andrews AFB, MD 20762-4803

Re: General Plan Update – Joint Base Andrews-Naval Air Facility
Prince George's County, Maryland

Dear Ms. Hodges:

Thank you for contacting the Maryland Historical Trust, the State Historic Preservation Office (MD SHPO), regarding the above-referenced undertaking. We have reviewed the project information in accordance with Section 106 of the National Historic Preservation Act and we are writing to provide our comments regarding potential effects on historic properties.

Based upon our review of the submitted information, we have determined that the General Plan Update for Joint Base Andrews- Naval Air Facility will have "no adverse effect" on historic properties provided the MD SHPO continues to review all projects deemed to have an effect upon historic resources or their settings.

Provided the condition of this letter is met, no further MD SHPO review or comment will be necessary at this time. If you should have any questions regarding this matter, please contact me at aapple@mdp.state.md.us or 410-514-7630. Otherwise, thank you for providing this initial opportunity to comment.

Sincerely,

Amanda R. Apple
Preservation Officer, Project Review & Compliance
Maryland Historical Trust

EJC/ARA/ 201100549/0799

Cc: Bob Rosenbush (MDP)
MD 20110216-0065

100 Community Place Crownsville, Maryland 21032-2023
Telephone: 410.514.7600 Fax: 410.987.4071 Toll Free: 1.800.756.0119 TTY Users: Maryland Relay
Internet: www.marylandhistoricaltrust.net

Rushern L. Baker, III
County Executive

PRINCE GEORGE'S COUNTY GOVERNMENT

Department of Public Works and Transportation
Office of the Director

MEMORANDUM

March 29, 2011

TO: Beverly G. Warfield, PGEO Clearinghouse Coordinator
Department of Environmental Resources

FROM: Haitham A. Hijazi, Director
Department of Public Works and Transportation

RE: Clearinghouse Referral Number: MD20110216-0065

This is in response to your March 7, 2011, letter requesting review of the Environmental Assessment (EA) and Draft FONSI: General Plan Update for Joint Base Andrews Naval Air Facility.

The Department of Public Works and Transportation has reviewed the draft report and offer the following comments:

1. The draft EA report mainly focuses on concerns related within the Andrew Air Force Base (AAFB). The report should include infrastructure study in the vicinity outside the Base including existing storm drain/stormwater management systems, roadway capacity and transit systems that will be greatly affected by the proposed construction inside the Base and BRAC program.

2. There are failed or under capacity storm drain/outfall systems and culverts located outside the Base and directly receive discharge from the Base. These culverts and storm drain/outfall systems are on Dower House Road, Old Alexandria Ferry Road, Branch Avenue (MD 5), and Allentown Road.

Inglewood Centre 3
(301) 883-5600
9400 Peppercorn Place, Suite 300
FAX (301) 883-5709
Largo, Maryland 20774
TDD (301) 985-3894

MD20110216-0065

3. Due to the recent relocation of Pearl Harbor Gate, which receives most of the commercial traffic and all delivery commercial vehicles to the Base, Dower House Road is under capacity and frequent backup. This section of Dower House Road, from Woodyard Road (MD 223) to Presidential Parkway (MD 4), needs to be studied and evaluated to meet current and future demand.

If you have any questions or need additional information, please contact Mr. Peter Doan, P.E., District Engineer for the area, Office of Engineering, at (301) 883-5710.

HAH:PD:dar

cc: Andre' Issayans, Deputy Director, DPW&T
Dawit Abraham, P.E., Associate Director, OE, DPW&T
Rey de Guzman, P.E., Chief, EISD, OE, DPW&T
Armen Abrahamian, Chief, Traffic Safety Division, OE, DPW&T

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