FINDING OF NO SIGNIFICANT IMPACT AND FINDING OF NO PRACTICABLE ALTERNATIVE FOR THE REPLACEMENT OF TAXIWAYS WHISKEY AND SIERRA AND PADS 12 AND 13 JOINT BASE ANDREWS-NAVAL AIR FACILITY WASHINGTON, MARYLAND

This Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969; President's Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA, 40 *Code of Federal Regulations* (CFR) 1500–1508; and Environmental Impact Analysis Process, 32 CFR 989. The decision in this FONSI and FONPA is based on information contained in the *Environmental Assessment for Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12, and Pad 13*, Joint Base Andrews-Naval Air Facility Washington (JBA), Maryland. The environmental assessment (EA) is attached to this FONSI/FONPA and incorporated by reference.

Decision

Based on the review of the EA, the Air Force has decided to proceed with replacing the taxiways and pads as described in the EA. The potential impacts to the human and natural environment were evaluated relative to the existing environment. Anticipated direct and indirect effects were assessed for each environmental resource or issue, and both short-term and long-term project effects were considered as well.

The proposed action is expected to result in less than significant or no effects on all resource areas considered (noise, air quality, safety and occupational health, earth resources, water resources, infrastructure and utilities, transportation, hazardous materials and waste, biological resources, cultural resources, socioeconomics [including environmental justice and protection of children], land use, and sustainability and greening). During construction, the proposed action would have temporary and minor impacts on the noise environment, air quality, soils, and the local transportation system on the base, and on the regional economy. Short-term and long-term minor impacts on soils due to the grading and filling of areas would be expected. Also, widening the taxiways from 75 feet to 82 feet will result in a projected net increase in impervious area of approximately 2 acres, which would result in a minor net increase in storm water runoff. The action would also impact up to approximately 0.4 acre of existing wetlands. A FONPA is required for the proposed action because relocating the taxiways and pads is not a feasible alternative. Before the start of construction, appropriate permits and approvals would be obtained. Any required mitigation will be conducted. Permanent impacts of the taxiway projects on JBA's jurisdictional wetlands airfield would be mitigated by off-site creation or restoration of wetlands. The proposed mitigation site is on the Hancock Property in Charles County, Maryland, and the specific mitigation plan would be determined jointly among JBA, the US Army Corps of Engineers, and the Maryland Department of the Environment. The projects would provide for larger aircraft utilization and would meet Air Force Standards for safe airfield operations. During construction, the proposed action would provide temporary, socioeconomic benefits through the generation of construction jobs.

Overall, the analysis for this EA indicates that the proposed actions would not result in or contribute to significant adverse direct, indirect, or cumulative impacts on the resources in the region.

Conclusion

Finding of No Practicable Alternative

Considering the information contained herein (including the attached EA), and pursuant to the authority delegated by the Headquarters Air Force Order Mission Directive 1-18, paragraph 6, the Air Force finds there is no practicable alternative to completing the Proposed Action within wetlands. The Proposed Action, as designed, includes all practicable measures to minimize impacts to wetlands. This FONPA is required pursuant to EO 11990.

Report Documentation Page

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OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
APR 2013		**00-00-2013 to 00-00-2013**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
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	5e. TASK NUMBER
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12. DISTRIBUTION/AVAILABILITY STATEMENT
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13. SUPPLEMENTARY NOTES

14. ABSTRACT

JBA proposes to improve its operational efficiency by replacing Taxiways Sierra and Whiskey and Pads 12 and 13 on the airfield. The task for Taxiway Sierra would include demolishing and replacing approximately 49,500 square yards (10 acres) of existing pavements and shoulders and improving or replacing the taxiway?s drainage, signage, and lighting systems. The task for Taxiway Whiskey would include replacing approximately 208,100 square yards (43 acres) of existing pavements and shoulders and improving or replacing the taxiway?s drainage, signage, and lighting systems. Taxiway Sierra would be replaced before work on Taxiway Whiskey began. The area of Pad 12 is approximately 7,340 square yards (1.5 acres), and the area of Pad 13 is approximately 7,280 square yards (1.5 acres). The pavement on both pads is about 10 inches thick. Replacing the pads would include excavation, site preparation, striping, restoration of disturbed areas, and all necessary and essential utilities work to satisfy JBA operational requirements. Pads 12 and 13 would be replaced after work on Taxiway Whiskey was completed. This environmental assessment (EA) has been prepared to address the potential impacts of undertaking the abovementioned project. This EA has been prepared to report an evaluation of the proposed action and alternatives, including the No Action Alternative. Resource areas addressed in the EA are noise, air quality, safety and occupational health, earth resources, water resources, infrastructure/utilities, transportation, hazardous materials and wastes, biological resources, cultural resources, historic and archaeological resources, socioeconomics (including environmental justice and protection of children), land use and visual resources, and sustainability and greening. The Draft EA was made available to agencies and the public for a 30-day comment period from March 7, 2013, to April 7, 2013.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**138**	

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Finding of No Significant Impact

In accordance with the CEQ regulations implementing NEPA and the Air Force Environmental Impact Analysis Process, the Air Force concludes that the Proposed Action will have no significant impact on the quality of the human environment and that the preparation of an environmental impact statement is not warranted.

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DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USAF, cn=GANTT.MICHAEL.E.1049310184
Date: 2013.06.25 14:28:39 -04'00'

25 June 2013

MICHAEL E. GANTT, Col, USAF
HQ Air Force District of Washington (AFDW)
Joint Base Andrews, MD

Date

Attachment: Environmental Assessment for Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12, and Pad 13 at Joint Base Andrews-Naval Air Facility Washington, Prince George's County, Maryland

Environmental Assessment for Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12, and Pad 13 at Joint Base Andrews-Naval Air Facility Washington Prince George's County, Maryland

Final

April 2013

Prepared for:

DEPARTMENT OF THE AIR FORCE
Joint Base Andrews-Naval Air Facility Washington
Prince George's County, Maryland

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Abbreviations and Acronyms

°C	degrees Celsius
°F	degrees Fahrenheit
AADT	average annual daily traffic
ACC	asphaltic cement concrete
AFDW	Air Force District of Washington
AFI	Air Force Instruction
AFPD	Air Force Policy Directive
ANSI	American National Standards Institute
AQCR	Air-Quality Control Region
AT/FP	Anti-Terrorism/Force Protection
BMP	best management practice
BRAC	Base Realignment and Closure
CARB	California Air Resources Board
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CO	carbon monoxide
CO_2	carbon dioxide
COMAR	Code of Maryland Regulations
dB	decibel
dBA	A-weighted decibel
DNL	day-night sound level
DoD	Department of Defense
EA	environmental assessment
EIAP	Environmental Impact Analysis Process
EIFS	Economic Impact Forecast System
EIS	environmental impact statement
EO	executive order
EPA	U.S. Environmental Protection Agency
ERP	Environmental Restoration Program
FHWA	Federal Highway Administration
FOD	foreign object debris
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
GDP	gross domestic product
GHG	greenhouse gas
I	Interstate
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
ILS	instrument landing system
JBA	Joint Base Andrews-Naval Air Facility Washington
L_{eq}	equivalent sound level
m	meter
MD	Maryland
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NSA	noise-sensitive area
O_3	ozone

OSHA	Occupational Safety and Health Administration
PCC	Portland cement concrete
PCPI	per capita personal income
$PM_{2.5}$	small particulate matter
PM_{10}	particulate matter
ppm	part per million
RCRA	Resource Conservation and Recovery Act
ROI	region of influence
RTV	rational threshold value
SF	square feet
SHPO	Maryland State Historic Preservation Officer, Maryland Historic Trust
SO_2	sulfur dioxide
SO_x	oxides of sulfur
TCE	trichloroethylene
TMDL	total maximum daily load
tpy	tons per year
U.S.C.	*United States Code*
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineers
USAF	United States Air Force
VOC	volatile organic compound
vpd	vehicles per day

Cover Sheet

Final Environmental Assessment for Taxiway and Pad Replacement at Joint Base Andrews-Naval Air Facility Washington, Maryland

Responsible Agencies: U.S. Air Force (USAF), Air Force District Washington, Headquarters Air Mobility Command, and the 11th Wing, Joint Base Andrews-Naval Air Facility Washington, Maryland (JBA)

Affected Location: JBA, Prince George's County, Maryland

Proposed Action: Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12, and Pad 13 on JBA Airfield.

Report Designation: Final Environmental Assessment (EA)

Written comments and inquiries regarding this document should be directed to Ms. Anne Hodges, 11 CES/CEAO/Asset Optimization, at (301) 981-1426, or e-mail to anne.hodges@afncr.af.mil

Abstract: JBA proposes to improve its operational efficiency by replacing Taxiways Sierra and Whiskey and Pads 12 and 13 on the airfield. The task for Taxiway Sierra would include demolishing and replacing approximately 49,500 square yards (10 acres) of existing pavements and shoulders and improving or replacing the taxiway's drainage, signage, and lighting systems. The task for Taxiway Whiskey would include replacing approximately 208,100 square yards (43 acres) of existing pavements and shoulders and improving or replacing the taxiway's drainage, signage, and lighting systems. Taxiway Sierra would be replaced before work on Taxiway Whiskey began.

The area of Pad 12 is approximately 7,340 square yards (1.5 acres), and the area of Pad 13 is approximately 7,280 square yards (1.5 acres). The pavement on both pads is about 10 inches thick. Replacing the pads would include excavation, site preparation, striping, restoration of disturbed areas, and all necessary and essential utilities work to satisfy JBA operational requirements. Pads 12 and 13 would be replaced after work on Taxiway Whiskey was completed.

This environmental assessment (EA) has been prepared to address the potential impacts of undertaking the abovementioned project.

This EA has been prepared to report an evaluation of the proposed action and alternatives, including the No Action Alternative. Resource areas addressed in the EA are noise, air quality, safety and occupational health, earth resources, water resources, infrastructure/utilities, transportation, hazardous materials and wastes, biological resources, cultural resources, historic and archaeological resources, socioeconomics (including environmental justice and protection of children), land use and visual resources, and sustainability and greening. The Draft EA was made available to agencies and the public for a 30-day comment period from March 7, 2013, to April 7, 2013.

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SECTION 1.0
PURPOSE, NEED, AND SCOPE

1.1 BACKGROUND

Joint Base Andrews-Naval Air Facility Washington (JBA) is 5 miles southeast of Washington, DC, in southern Prince George's County, Maryland (Figure 1-1). The Base occupies 4,346 acres abutting Interstate 495, between Maryland Route 4 (Pennsylvania Avenue) and Maryland Route 5 (Branch Avenue). The Patuxent River is approximately 7 miles east of the Base. The communities of Camp Springs and Morningside are adjacent to the Base. The surrounding areas consist of residential, industrial, commercial, and institutional areas and woodlands.

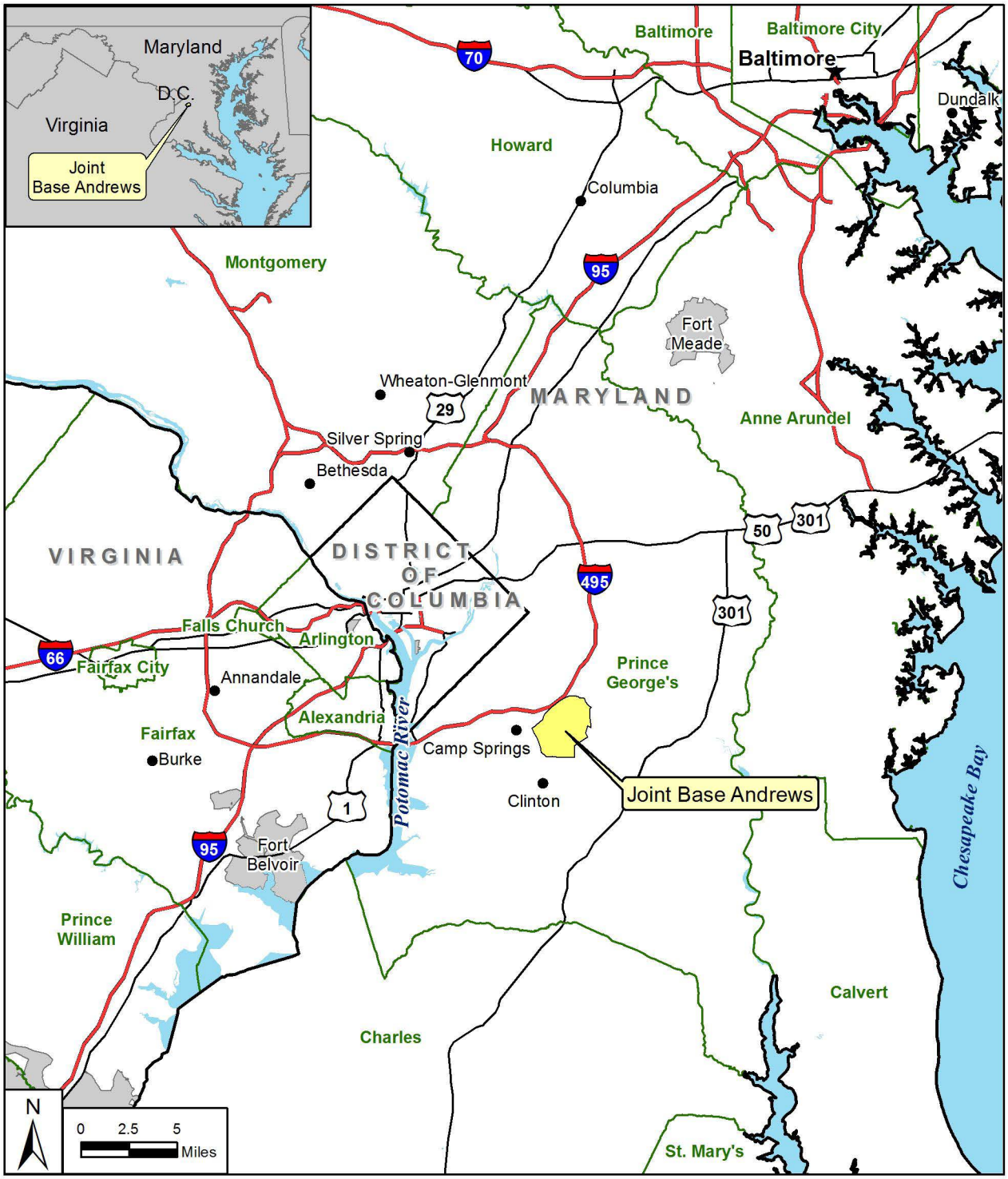
JBA proposes to improve its operational efficiency by reconstructing Taxiways Sierra and Whiskey and Pads 12 and 13 on the airfield. Taxiway reconstruction would include replacing existing pavements and shoulders and improving or replacing the drainage, signage, and lighting systems on the taxiways. Taxiway Sierra would be replaced before beginning work on Taxiway Whiskey. Reconstructing the pads would include excavation, site preparation, striping, restoration of disturbed areas, and all necessary and essential utilities work to satisfy JBA operational requirements.

This environmental assessment (EA) has been prepared to address the potential impacts of undertaking the abovementioned project.

1.2 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.2.1 Taxiway Replacement

Taxiways Sierra and Whiskey and affected portions of interconnecting airfield pavements would be replaced to provide JBA with modern taxiways strong enough to support airfield operations and training exercises. New taxiways are needed to conform to U.S. Air Force (USAF) and federal standards and airfield design criteria (see section 2.1). Taxiways Sierra and Whiskey are more than 50 years old and do not conform to current USAF standards, criteria, and requirements because of pavement failures and degraded lighting and drainage systems. The taxiways show significant load-related distress, including medium-severity cracking, map cracking, patching, and joint seal damage (Figure 1-2). Pavements on the taxiways have deteriorated to the extent that routine maintenance and repair can no longer maintain the taxiways in the requisite condition. Replacing the taxiways is necessary to improve the usability of the airfield and the safety of airfield operations, and to ensure continuous operation of the airfield for national defense purposes. The latest Andrews Infrastructure Assessment rates the entire airfield pavement system as degraded (JBA 2012a). Numerous projects to address the deteriorated condition of the airfield pavement system, including repair of the East and West Runways, have been undertaken or planned. The airfield storm drainage system also needs repairs. Taxiways Sierra and Whiskey would be replaced as part of the overall replacement and repair of the airfield pavement system.



LEGEND

- Joint Base Andrews
- Interstate Highway
- U.S. Route
- County Boundary
- Surface Water

Location of Joint Base Andrews-Naval Air Facility Washington

Figure 1-1

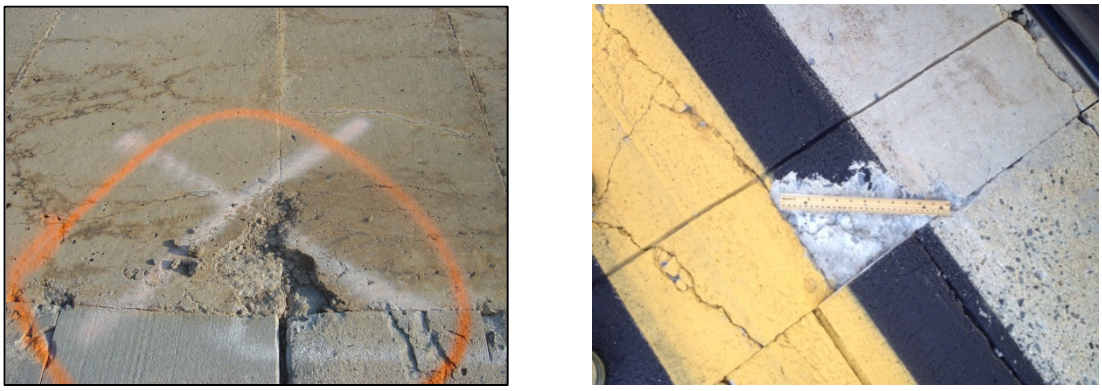


Figure 1-2. Pavement conditions on Taxiways Sierra and Whiskey.

Taxiway Sierra is approximately 1,800 feet long by 75 feet wide and has approximately 10 inches of Portland cement concrete (PCC) pavement. It has a 25-foot-wide by 4-inch-deep asphaltic cement concrete (ACC) shoulder on the north side and on the south side where the taxiway does not intersect other pavements (i.e., Pads 93 and 92). Taxiway Whiskey is approximately 10,700 feet long by 75 feet wide and has approximately 19 inches of PCC pavement. It has a 50-foot-wide by 4-inch-deep ACC shoulder on the east side and at its northern and southern ends on the west side; that is, there is no shoulder where Taxiway Whiskey intersects the West Apron and other taxiways. Both taxiways were constructed in 1961. Taxiway Whiskey has three connecting taxiways to the west (Whiskey 2, 3, and 5), three connecting taxiways to the east (Whiskey 1, 4, and Charlie), and four connecting pads. The West Apron connects to Taxiway Whiskey.

1.2.2 Pad Replacement

Pads 12 and 13 have areas of approximately 7,340 square yards (1.5 acres) and 7,280 square yards (1.5 acres), respectively. The pavement on both pads is 10 inches thick. Pads 12 and 13 would be replaced with new pads of equal size and thickness to decrease the probability of damage to aircraft using and transiting the pads and to support the National Capitol Region alert mission.

The concrete pavement on Pads 12 and 13 on the airfield is 47 years old and beyond its design lifespan. The concrete on both pads is badly deteriorated and poses a high foreign object debris (FOD) potential. The most recent airfield pavement conditions survey rates both pads as unsatisfactory, and complete replacement of both pads is recommended (JBA 2012a).

1.3 SCOPE OF THE EA

This EA evaluates the potential impacts on the human and natural environments of replacing Taxiways Sierra and Whiskey and affected portions of interconnecting airfield pavements and of replacing Pads 12 and 13 on the JBA airfield. The EA also evaluates the disposal of all material removed from the taxiways and pads during their replacement. The proposed action is evaluated to determine the potential for significant adverse effects on the human and natural environments, including short- and long-term, direct and indirect, and cumulative adverse effects.

The resources evaluated in this EA are noise; air quality; safety and occupational health; earth resources; water resources; infrastructure and utilities; transportation; hazardous materials and waste; biological resources; cultural resources; socioeconomics (including environmental justice and protection of children); land use; and sustainability and greening.

1.4 PUBLIC REVIEW AND INTERAGENCY COORDINATION

The Intergovernmental Coordination Act and Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, require intergovernmental notifications before making any detailed statement of environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the proponent must notify concerned federal, state, and local agencies and allow them sufficient time to evaluate potential environmental impacts of a proposed action. Comments from these agencies are subsequently incorporated into the Environmental Impact Analysis Process (EIAP).

A notice of availability of the Draft EA and Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) was published in the Prince George's County *Gazette* and the *Andrews Gazette* newspapers, and copies of the Draft EA and FONSI were made available for review at the Upper Marlboro Branch of the Prince George's County Memorial Library System at 14730 Main Street, Upper Marlboro, Maryland, and the JBA Library at 1642 Brookley Avenue, JBA. Additionally, the Draft EA and Draft FONSI are available on the Andrews AFB website, www.andrews.af.mil.

SECTION 2.0
DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 SELECTION STANDARDS FOR ALTERNATIVES

A viable alternative for the replacement of Taxiways Sierra and Whiskey and Pads 12 and 13 is one that results in an airfield that is in compliance with Air Force planning and design manuals, flight safety instructions, design standards, and engineering technical letters for airfield operations. These documents provide specifications and standards for airfield pavement design, visual air navigation, and installation of aircraft arresting gear. The standards that led to the selection of the proposed action of this EA are the following:

- Unified Facilities Criteria (UFC) 3-260-02, Pavement Design for Airfields, 30 June 2001
- UFC 3-260-01, Airport and Heliport Planning and Design, 17 November 2008
- UFC 1-300-02, Unified Facilities Guide Specifications (UFGS) Format Standard, September 2004, changed 4 December 2006
- UFC 3-535-01, Visual Air Navigation Facilities, 17 November 2005

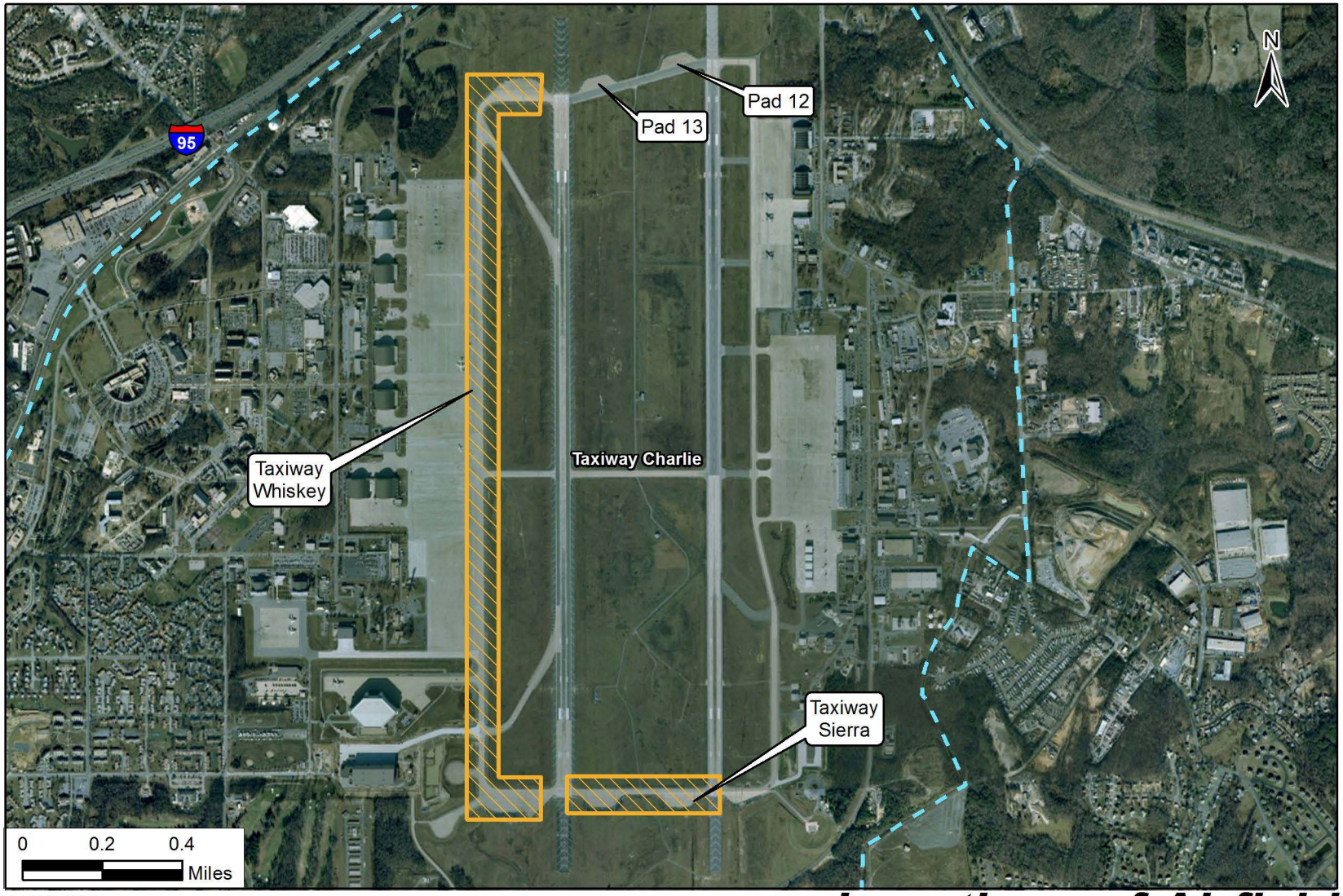
These manuals and criteria specify the geometry, width and length requirements, weight-bearing strength, connectivity, and construction details of airfield pavements, and lighting and navigation requirements on Air Force airfields. Alternatives that did not comply with the design and operational criteria specified in the above-listed UFC were not considered viable.

2.2 DETAILED DESCRIPTION OF THE PROPOSED ACTION

JBA proposes to replace infrastructure elements in its airfield. This is JBA's preferred alternative. Under the proposed action, JBA would replace Taxiways Sierra and Whiskey (and affected portions of interconnecting airfield pavements) and Pads 12 and 13 (Figure 2-1). The taxiways would be replaced to conform to current USAF and federal airfield design criteria. Replacing the taxiways would provide modern taxiways of adequate strength and with airfield navigation systems that conform to current USAF standards and are capable of supporting airfield operations and training exercises. Additional pavement at affected portions of interconnecting airfield pavements would permit JBA to receive large, modern aircraft. Pads 12 and 13 would be replaced to support mission aircraft.

Taxiways Sierra and Whiskey would be replaced with new taxiways slightly wider than the existing taxiways (82-foot widths versus the current 75-foot widths). Approximately 12,600 square feet (SF) (0.29 acre) of new pavement would be added to Taxiway Sierra, and approximately 74,900 SF (1.72 acres) of new pavement would be added to Taxiway Whiskey. The existing 50-foot-wide shoulders would be removed and replaced with new 50-foot-wide shoulders that consist of 35 feet of pavement and 15 feet of earthen shoulders.[1] Replacing the existing taxiways with wider taxiways and new shoulders would permit JBA to accommodate

[1] Taxiway Whiskey would be shifted 23.5 feet to the east to maintain the parking configuration on the West Apron. The existing 50-foot shoulder on the east side of the taxiway would be used to accommodate this shift, with the remaining 26.5 feet used for the new 35-foot-wide asphalt shoulders. Therefore, 8.5 feet of the asphalt shoulder on the east side would be new pavement.



LEGEND

JBA Boundary

Locations of Airfield Infrastructure to Be Replaced

Figure 2-1

Source: JBA GIS 2012.

large, modern aircraft, such as the Airbus A380 and the Boeing 747-8I. Such aircraft are larger than those for which the airfield infrastructure was designed and larger than what the existing taxiways can accommodate. Increasing the width during this project is considered an economical option because both taxiways would eventually have to be widened to accommodate large, modern aircraft.

Taxiway replacement would involve demolishing and replacing the existing pavements and shoulders on Taxiways Sierra and Whiskey. Work on both taxiways would include excavation and grading; installing drainage structures (underdrain and drainage layer system) as needed to correct drainage problems; installing signage and lighting systems; striping; and restoring disturbed areas. The new pavements would be designed to have a 20-year lifespan, although in practicality it is expected that they would be serviceable much longer than that. A site of at least 5 acres would be required for a concrete batch plant during taxiway replacement; additional area would be necessary to stockpile crushed pavement. DoD AT/FP requirements would be met per the UFC, and all operational requirements would be satisfied. Brief details of what would be involved in replacing the taxiways and pads are provided below.

- **Contractor access.** Contractors for the project would use the Pearl Harbor Gate on the east boundary of the Base for access to JBA.

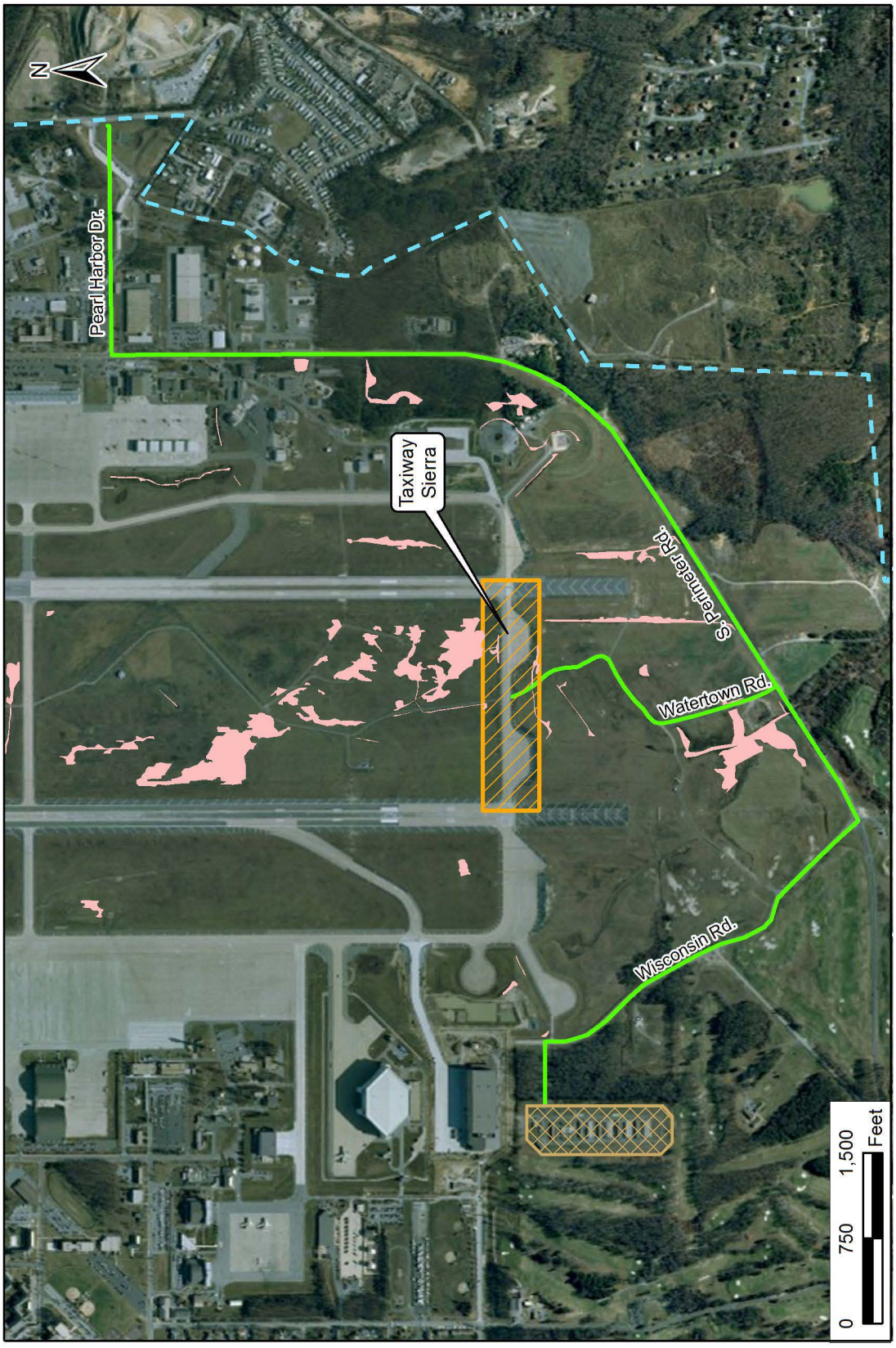
  Construction staging
  Sierra. The construction staging area for Taxiway Sierra would be Staging Area 6 (9.9 acres; the former Munitions Storage Facility) west of Taxiway Sierra (Figure 2-2), or Staging Area 4 (6.5 acres) along Nevada Avenue (see Figure 2-3) if Staging Area 6 is not available at the time that the taxiway work begins. Both sites provide sufficient space for contractor staging, material storage, a concrete batch plant, and concrete crushing operations.

  Whiskey. The construction staging area for Taxiway Whiskey would also be Staging Area 6. Staging Area 2 (1.2 acres) and Staging Area 3 (1.7 acres) could also be made available for contractor use if necessary (Figure 2-3). Construction staging for replacing Pads 12 and 13 has not been determined but would likely be similar to that for work on the north end of Taxiway Whiskey.

- **Haul route**
  Sierra. An approximate 1.5-mile haul route along Wisconsin Avenue, South Perimeter Road, and Watertown Road would be used to access the work site for Taxiway Sierra. No temporary haul routes for work on Taxiway Sierra would be constructed.

  Whiskey. During construction on Taxiway Whiskey north of Taxiway Charlie, a haul route of approximately 2.5 miles would be used from the Staging Area to the work site along North Perimeter Road. During construction on Taxiway Whiskey south of Taxiway Charlie, a haul route of approximately 3.8 miles would be used from the Staging Area to the work site along South Perimeter Road. Access to the work site would be across the northern edge of the West Apron, along a haul route approximately 210 feet east of and parallel to Taxiway Whiskey, and across the Hot Cargo Pad off Taxiway Whiskey South.

  The proposed action would not require upgrades to existing Base roads that would be used as haul routes; the maximum weight limits for all paved roads on JBA would be observed by contractors.



Taxiway Sierra Detail with Haul Routes and Staging Area

Figure 2-2

LEGEND
- JBA Boundary
- Taxiway Whiskey
- Haul Route
- Staging Area
- Delineated Wetlands

SA: Staging Area

Taxiway Whiskey Detail with Haul Routes and Staging Areas

Figure 2-3

Source: JBA GIS 2012.

- **Taxiway width.** Both taxiways would be widened from 75 to 82 feet, and the shoulders would be widened. The shoulder pavement on Taxiway Sierra would be widened from 25 feet to 35 feet wide. Existing 50-foot-wide shoulders on Taxiway Whiskey would be replaced with 35 feet of paved shoulders and 15 feet of earthen shoulders, for a total width of 50 feet. This would be done to accommodate larger aircraft (e.g., Boeing 747-8I and Airbus A-380).
- **Runway fillets.** The fillets connecting runways and taxiways to Taxiways Sierra and Whiskey would be reconstructed because of the increased pavement width.
- **Construction detail.** The taxiway would be constructed of PCC, a drainage layer, a rigid pavement base, and a compacted subgrade. The shoulders would consist of asphalt, aggregate, a drainage layer, and a compacted subgrade.
- **Taxiway lighting.** The taxiway edge lights would be installed 5 feet from the edge of the 82-foot-wide taxiway pavement.

  Sierra. New taxiway edge lights, taxiway centerline lights, instrument landing system (ILS) hold location lighting for the West Runway, and runway guard bar lights for the West Runway would be installed. The taxiway centerline lights, runway guard bar lights, runway ILS hold location lights, and runway edge lights that were recently installed as part of the West Runway rehabilitation would be removed and reinstalled.

  Whiskey. New taxiway edge lights and taxiway centerline lights would be installed, and ILS hold location lighting for lights affected by the West Runway work would be reinstalled.
- **Storm drainage.** Storm drain lines within the project limits would be replaced to avoid future replacement in the newly constructed taxiway areas. The storm drainage system in the airfield has been analyzed, and the replacement lines would be designed to reduce flooding and meet the UFC.
- **Stormwater runoff.** Vegetated dry swales would be installed to meet water quality requirements. In accordance with UFC 3-230-01, *Surface Drainage Design*, airfield storm drainage systems must accommodate the stormwater runoff associated with the

  2-year rainfall event with no encroachment of runoff on runways or taxiways. In addition, the center 50 percent of runways and taxiways must be free from ponding associated with runoff from the 10-year rainfall event. The Maryland Department of the Environment (MDE) requires that each swale be capable of treating the required water quality volume while safely conveying the 10-year storm event and incorporating 6 inches of freeboard above the 10-year stormwater surface elevation. An MDE-approved Stormwater Management Plan and Soil Erosion and Sediment Control Plan and permit would be obtained before any work began.
- **Wetlands.** On the basis of the 2012 delineation of wetlands, 0.36 acre (approximately 15,862 SF) of wetlands is within the limits of the Taxiway Sierra work area and 0.03 acre (approximately 1,331 SF) of wetlands is within the Taxiway Whiskey work area. JBA would obtain a Nontidal Wetland Permit from MDE and a section 404 Wetland Permit from the U.S. Army Corps of Engineers (USACE) for any loss of wetlands and would mitigate the loss in accordance with the permits. EO 11990, *Protection of Wetlands*, requires that federal agencies minimize the destruction, loss or degradation of wetlands, but provides that new construction may be located in wetlands if there is no practicable alternative to the construction. The loss of wetlands during the replacement of Taxiways

Sierra and Whiskey is necessary because relocating the taxiways is not feasible. In accordance with EO 11990, JBA would prepare a FONPA for the taxiway replacements.

- **Solid waste.** Solid waste would be managed in accordance with all applicable federal, state, and local regulations. Waste from removal of the existing taxiways and pads would be recycled and reused to the extent practicable.
- **Soil contamination—lead.** Some .50 caliber bullets could be in the soil underneath the pavement near the western intersection of Taxiway Sierra and the West Runway where, in the 1940s, there was a firing-in buttress. (The site is a JBA Environmental Restoration Program [ERP] site, FI-346.) The berm was bulldozed during airfield construction and is now spread out under the airfield pavement. The West Runway project contractor found lead levels that were elevated (but lower than the 400 parts per million [ppm] action level) in the region. Soil removed from the area would be tested to determine whether the lead level is below the U.S. Environmental Protection Agency's (EPA's) action level. The action level for lead in soil is 400 ppm, but it might change in the next couple years to 40 ppm. If the action level changes and the contamination level in the soil then exceeds the action level, the soil will be removed and disposed of in accordance with applicable laws and regulations and replaced with clean fill.
- **Soil contamination—TCE.** An environmentally sensitive area (because of trichloroethylene [TCE] in groundwater) is adjacent to the limits of the work area for the project at the southern end of Taxiway Whiskey. Taxiway Sierra is outside the affected area, and it is not anticipated that TCE would be encountered during taxiway replacement. As a precaution, cuttings from taxiway borings would be stockpiled and tested. The contractor would screen, test, and dispose of contaminated soils in accordance with applicable regulations. Suspected contaminated materials would be stored in drums until testing could be performed.
- **Construction duration**
  Sierra. Taxiway Sierra's reconstruction would take approximately 7 months (215 calendar days). The work would be completed in five phases, each affecting a separate portion of the taxiway.

  Whiskey. Work on Taxiway Whiskey would begin after reconstruction of Taxiway Sierra was completed, and it would take approximately 24 months (720 calendar days). The work would be completed in six phases, each having one to four subphases and each affecting a separate portion of the taxiway.

All taxiway reconstruction would be phased and managed such that airfield operations would be interrupted as little as feasible. Access to essential airfield areas, such as some hangars, would be permanently available. Contractors would depart the airfield as necessary before and during distinguished visitor movements. Some temporary closures (of approximately 10 days) of the west runway and short-duration encroachment on runway missions could occur.

Work on Pads 12 and 13 would include replacing the PCC pavement, asphalt shoulders, under-drains, and edge lights on each pad. The pavement on both pads is 10 inches thick. Pads 12 and 13 have areas of approximately 7,340 square yards (1.5 acres) and 7,280 square yards (1.5 acres), respectively. The pavement and an additional 10 inches of base and subbase on each pad would be removed and replaced with pads of equal size and thickness.

Erosion and sediment control best management practices (BMPs) would be used during demolition. Disturbed areas within the project area would be reseeded and stabilized as work in

each area is completed to prevent excessive erosion, reduce runoff velocity, and control the proliferation of noxious weeds. The taxiways would be designed in accordance with Air Force requirements for airfield pavement and lighting and MDE construction stormwater management requirements. No floodplains, waters of the United States, threatened or endangered species, or cultural resources are within the project area for the taxiway and pad reconstruction. No wetlands would be affected by replacing Pads 12 and 13; as noted above, however, reconstructing Taxiways Sierra and Whiskey would require construction in wetlands and cause the loss of approximately 0.4 acre of wetlands, and JBA would prepare a FONPA for the taxiway replacements. . JBA would comply with MDE and USACE permitting requirements for wetland impacts.

2.3 ALTERNATIVES

The USAF performed an analysis of reasonable options for accomplishing the project. Alternatives considered included replacing the taxiway and pad concrete (in the same location), constructing new taxiways and pads (in new locations), and discontinuing use of the taxiways and pads. The analysis indicated that replacing the concrete is the only viable option that will meet JBA's operational requirements. The age of the taxiways and pads and their poor condition, which is partially from their having received numerous spot repairs over their more than 50-year lifespans, makes further repair a nonviable option. Further repair would not provide taxiways compliant with UFC 3-260-02, *Pavement Design for Airfields*. Constructing new taxiways and pads in new locations would not meet UFC 3-260-01, *Airport and Heliport Planning and Design*, because of requirements that taxiways have connectivity to existing airfield elements (aprons, entrance and exit taxiways, apron taxiways and taxilanes, hangar access areas, runways, and maintenance, refueling, and warm-up pads). Replacing one taxiway and not the other, or one pad and not the other, was also dismissed as an unreasonable alternative because it is the entire airfield pavement system, not individual parts of it, that have been rated as degraded and in need of replacement or repair. Replacing only some parts of the system would leave JBA with an airfield pavement system still out of compliance with UFC 3-260-02. Discontinuing use of the Taxiways Sierra and Whiskey and Pads 12 and 13 would prevent JBA from accomplishing its mission. For these reasons, alternatives other than replacement are not evaluated in detail in this EA. Finally, although the option of replacing Taxiway Whiskey in a single phase existed, it was removed from consideration because of the need to keep access to the West Apron open at all times during replacement of the taxiway.

2.4 NO ACTION ALTERNATIVE

Under the No Action Alternative, Taxiways Sierra and Whiskey and Pads 12 and 13 would not be replaced. The continued lack of serviceable airfield pavements could jeopardize JBA's ability to provide necessary and appropriate airfield service to the DoD and federal aircraft that use the Base. Sustained aircraft operations on the inadequate and deteriorated pavements would result in continually increasing maintenance costs, frequency of repairs, and potential loss of aircraft, equipment, and personnel. The pavements would continue to deteriorate at an accelerated rate, causing increased mission impacts and greatly increasing the probability of serious damage to aircraft using and transiting these airfield areas. Because of the National Capitol Region alert mission, Pads 12 and 13 are critical to support missions. Not replacing them could result in delayed response times for fighter aircraft if they encounter FOD while transiting the pads.

If Taxiways Sierra and Whiskey are not widened, the size of aircraft that JBA could accommodate would be limited and the taxiways would not meet the needs of the mission (that is,

the largest aircraft would still need to be routed to alternate airfields). If the taxiways are not widened during this reconstruction project, the federal government would incur significant additional cost later because the taxiways would eventually need to be reconfigured to accommodate large, modern aircraft.

2.5 DECISION TO BE MADE

The Chairman of the Environmental Safety and Occupational Health Committee at JBA is responsible for determining whether to prepare a FONSI/FONPA and proceed with the proposed action analyzed in the EA, to prepare an environmental impact statement, or to do nothing. The final decision requires the concurrence and signature of the Installation Commanding Officer.

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SECTION 3.0
AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 NOISE

3.1.1 Affected Environment

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. *Noise* is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, the distance between the noise source and the receptor, receptor sensitivity, and time of day. Noise is often generated by activities essential to a community's quality of life, such as construction or vehicular traffic.

Sound varies in both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The decibel is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. The Hertz is used to quantify sound frequency. The human ear responds differently to different frequencies. "A-weighing," measured in A-weighted decibels (dBA), approximates a frequency response expressing the perception of sound by humans. Sounds encountered in daily life and their dBA levels are provided in Table 3-1.

Table 3-1.
Common sounds and their levels

Outdoor	Sound level (dBA)	Indoor
Motorcycle	100	Subway train
Tractor	90	Garbage disposal
Noisy restaurant	85	Blender
Downtown (large city)	80	Ringing telephone
Freeway traffic	70	TV audio
Normal conversation	60	Sewing machine
Rainfall	50	Refrigerator
Quiet residential area	40	Library

Source: Harris 1998.

The dBA noise metric describes steady noise levels. Because very few noises are, in fact, constant, the A-weighted day-night sound level has been developed. The day-night sound level (DNL) is defined as the average sound energy in a 24-hour period with a 10-dB penalty added to the nighttime levels (10 p.m. to 7 a.m.). It is a useful descriptor for noise because (1) it averages ongoing yet intermittent noise, and (2) it measures total sound energy over a 24-hour period. In addition, the equivalent sound level (L_{eq}) is often used to describe the overall noise environment; L_{eq} is the average sound level in decibels.

The Noise Control Act of 1972 (Public Law 92-574) directs Federal agencies to comply with applicable Federal, state, and local noise control regulations. In 1974 EPA provided information suggesting continuous and long-term noise levels in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals. Maryland's Environmental Noise Act of 1974 limits noise to that level which will protect the health, general welfare, and property of the people of the state. The state limits both the overall noise environment and the maximum allowable noise level for residential, industrial, and commercial areas (COMAR 26.02.03). Maximum levels may not exceed 65 dBA in the daytime and 55 dBA at night in residential areas. In addition, the DNL may not exceed 55 dBA in residential areas and 64 dBA in commercial areas. For construction and demolition activities, a person may not cause or permit noise levels that exceed 90 dBA during daytime hours (7 a.m. to 10 p.m.; COMAR 26.02.03). Prince George's County has a noise ordinance that limits noise to 85 dBA in residential areas.

Existing noise levels (DNL) were estimated for the areas surrounding the site of the proposed action using the existing aircraft noise contours for JBA. Table 3-2 outlines the land use category and the estimated background noise levels for nearby noise-sensitive areas (JBA 2011).

Table 3-2.
Estimated background noise levels at nearby NSAs

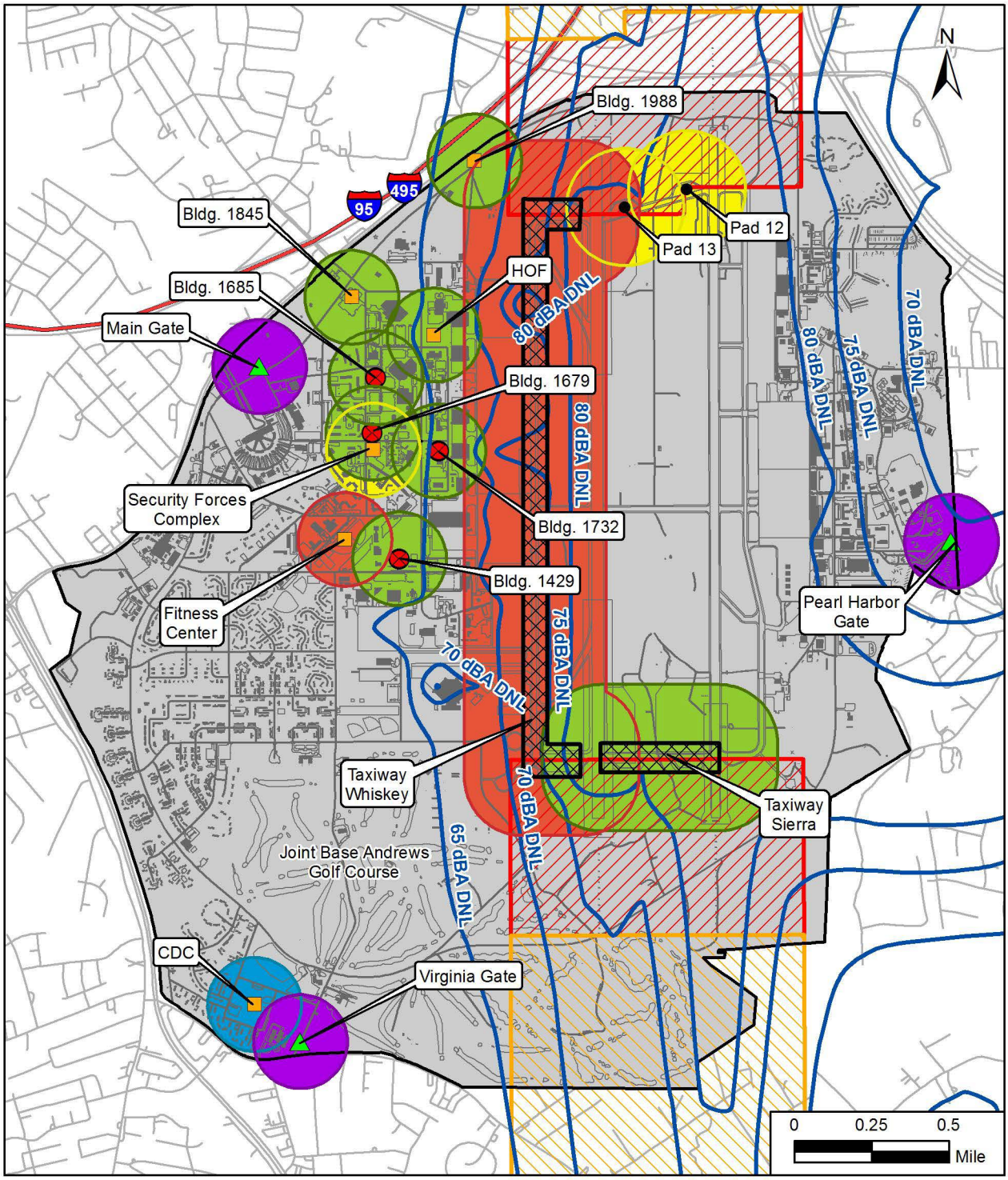
Closest noise-sensitive area (NSA)				Estimated existing sound levels [DNL (dBA)]
Location	Distance	Direction	Type	
Sierra Taxiway	3,651 ft (1,113 m)	Southeast	Residential	65
Whiskey Taxiway	2,060 ft (628 m)	Northwest		
Pads 12 and 13	3,153 ft (961 m)	Northwest		
Concrete Batch Plant	1,778 ft (542 m)	Northwest		60

Source: JBA 2011.

3.1.2 Environmental Consequences

Proposed Action. No significant adverse effects on the noise environment would be expected if the proposed action was implemented. Short-term negligible adverse effects would be expected. Short-term increases in noise would occur due to construction and demolition activities during the widening of Sierra and Whiskey Taxiways and the replacement of Pads 12 and 13. Table 3-3 presents typical noise levels (in dBA at 50 feet) that EPA has estimated for the main phases of outdoor construction. Individual pieces of construction and demolition equipment typically generate noise levels of 80 to 90 dBA at a distance of 50 feet. With multiple items of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred feet of active construction and demolition sites. The zone of relatively high construction noise typically extends to distances of 400 to 800 feet from the site of major equipment operations.

There are no noise sensitive receptors within 800 feet of any of the demolition/construction activities, and nearby noise sensitive areas would not experience appreciable amounts of construction noise (Figure 3-1). At these distance, heavy equipment noise would be audible but distant during the quieter periods of the day. A large number of truck trips would be required to remove the concrete along the designated haul routes, which are closer to the NSAs than activities



LEGEND

- Installation Property
- Facilities to be Removed
- New Construction
- Gates to be Upgraded
- Clear Zone
- Accident Potential Zone I

Construction Noise Area by Project Year

- 2013
- 2014
- 2015
- 2016
- 2016-2018

Existing Aircraft Noise Contours - Day Night Level (DNL) [dBA]

HOF: Helicopter Operations Facility
CDC: Child Development Center

Noise Effects

(Airfield and other proposed projects)

Figure 3-1

Table 3-3.
Noise levels associated with outdoor construction

Construction phase	L_{eq} (dBA)
Ground clearing	84
Excavation, grading	89
Foundations	78
Structural	85
Finishing	89

Source: USEPA 1971.

would be. Truck traffic along these routes would be audible at some nearby locations, having minor adverse effects. Notably, the construction noise would be in the area of ongoing aircraft operations and associated noise. These existing aircraft operations would tend to mask the construction noise and minimize the already limited effects. Overall, these effects would be minor.

A long-term change in the overall noise environment (e.g., L_{eq}, A-weighted DNL) at JBA would be expected after the proposed action is completed when the larger aircraft begin using JBA. There is at the time no information on how many of the planes would use JBA or how many flights attributable to the larger aircraft would be made annually at JBA. It is likely that the noise contours would change as a result of the larger aircraft using the base, but at this time the magnitude and direction of the change cannot be estimated. There would be no new permanent sources of noise. Widening of the existing taxiways would not require reconfiguration of the existing land use, and would not change the nature or levels of noise attributable to aircraft that use the base now.

No Action Alternative. No effects on the noise environment would result from selecting the No Action Alternative. No construction and demolition would be undertaken. Noise conditions would remain unchanged when compared to existing conditions.

3.2 AIR QUALITY

3.2.1 Affected Environment

EPA Region 3 and MDE regulate air quality in Maryland. The Clean Air Act (42 U.S.C. 7401–7671q), as amended, assigns EPA the responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS; 40 CFR Part 50). The NAAQS specify acceptable concentration levels of six criteria pollutants: particulate matter (measured as both particulate matter less than 10 microns in diameter [PM_{10}] and particulate matter less than 2.5 microns in diameter [$PM_{2.5}$]), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), and lead. Short-term NAAQS (1-, 8-, and 24-hour periods) have been established for pollutants that contribute to acute health effects, while long-term NAAQS (annual averages) have been established for pollutants that contribute to chronic health effects. Although each state has the authority to adopt standards stricter than those established under the Federal program, the State of Maryland has accepted the Federal standards.

Federal regulations designate Air Quality Control Regions (AQCRs) in violation of the NAAQS as *nonattainment* areas. Federal regulations designate AQCRs with levels below the NAAQS as

attainment areas. According to the severity of the pollution problem, O_3 and PM_{10} nonattainment areas may be categorized as marginal, moderate, serious, severe, or extreme.

Prince George's County (and therefore all areas associated with the proposed action) is within the National Capital Interstate AQCR, AQCR 47 (40 CFR 81.12). EPA has designated Prince George's County as moderate nonattainment for the 1997 8-hour O3 NAAQS, marginal nonattainment for the 2008 8-hour O_3 NAAQS and nonattainment for the $PM_{2.5}$ NAAQS (USEPA 2012a). The CO maintenance area for Washington DC extends to Prince Georges County's election districts 2, 6, 16, 17, and 18. JBA is in election district 9 and not within the designated CO maintenance area. Before it was revoked, the area was a severe nonattainment area for the 1-hour O_3 NAAQS. In addition, the county is located in the Ozone Transport Region, which includes 12 states and the District of Columbia. EPA monitors levels of criteria pollutants at representative sites in each region throughout Maryland. For reference purposes, Table 3-4 shows the monitored concentrations of criteria pollutants at the monitoring location closest to JBA.

Table 3-4.
Air quality standards and monitored data

Pollutant	Air quality standards	Monitored data
CO		
1-hour maximum[a] (ppm)	35	1.3
8-hour maximum[a] (ppm)	9	0.8
NO_2		
1-hour (ppb)	100	<no data>
O_3		
8-hour maximum[b] (ppm)	0.075	0.086
SO_2		
1-hour maximum[a] (ppb)	75	12
24-hour maximum[a] (ppb)	140	4
$PM_{2.5}$		
24-hour maximum[c] ($\mu g/m^3$)	35	27
Annual arithmetic mean[d] ($\mu g/m^3$)	15	11.8
PM_{10}		
24-hour maximum[a] ($\mu g/m^3$)	150	25

Sources: 40 CFR 50.1–50.12; USEPA 2012b.
Notes:
ppm = parts per million.
$\mu g/m^3$ = micrograms per cubic meter.
NO_2 = nitrogen dioxide.
[a] Not to be exceeded more than once per year.
[b] The 3-year average of the fourth highest daily maximum 8-hour average O_3 concentrations over each year must not exceed 0.08 ppm.
[c] The 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor must not exceed 35 ug/m^3.
[d] The 3-year average of the weighted annual mean $PM_{2.5}$ concentrations from must not exceed 15.0 ug/m^3.

JBA is a synthetic minor facility for the purposes of air permitting, and it holds a synthetic minor operating permit (#033-00655A) that expires January 30, 2017. The permit requirements include annual periodic inventory of all significant stationary sources of air emissions for each of the criteria pollutants of concern; monitoring and recordkeeping requirements also are included in the

permit. For reference purposes, Table 3-5 lists JBA's 2011 facility-wide air emissions from all significant stationary sources.

Table 3-5.
Annual emissions for significant stationary sources at JBA

Pollutant	Emissions (tons/year)
Carbon monoxide (CO)	6.1
Nitrogen oxides (NO_x)	9.5
Volatile organic compounds (VOCs)	2.7
Fine particulate matter ($PM_{2.5}$)	<0.1
Fine particulate matter (PM_{10})	0.6
Sulfur dioxide (SO_2)	0.3

Source: JBA 2012.

Greenhouse Gases and Climate Change. The average high temperature in Prince George's County, Maryland, is 87 degrees Fahrenheit (°F), or 30.6 degrees Celsius (°C), in the hottest month, July. The average low temperature is 22 °F (-5.6 °C) in the coldest month, January. Prince George's County has average annual precipitation of 43.7 inches (111.0 centimeters). The wettest month of the year is May with an average rainfall of 4.3 inches (10.9 centimeters) (Idcide 2012).

Greenhouse gases (GHGs) are components of the atmosphere that trap heat relatively near the surface of the earth and therefore contribute to the greenhouse effect and climate change. Most GHGs occur naturally in the atmosphere, but increases in their concentration result from human activities such as the burning of fossil fuels. Global temperatures are expected to continue to rise as human activities continue to add carbon dioxide (CO_2), methane, nitrous oxide, and other greenhouse (or heat-trapping) gases to the atmosphere. Whether rainfall will increase or decrease remains difficult to project for specific regions (USEPA 2012c; IPCC 2007).

EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, outlines policies intended to ensure that Federal agencies evaluate climate-change risks and vulnerabilities and manage the short- and long-term effects of climate change on their operations and mission. The EO specifically requires agencies within DoD to measure, report, and reduce their GHG emissions from both their direct and indirect activities. DoD has committed to reducing GHG emissions from non-combat activities 34 percent by 2020 (DoD 2010). In addition, the CEQ recently released draft guidance on when and how Federal agencies should consider GHG emissions and climate change in NEPA analyses. The draft guidance includes a presumptive effects threshold of 27,563 tons per year (25,000 metric tons per year) of CO_2 equivalent emissions from a Federal action (CEQ 2010).

3.2.2 Environmental Consequences

Proposed Action. No significant adverse effects on air quality would be expected if the proposed action was implemented. Short-term minor adverse effects would be expected. The short-term effects would be due to airborne dust and other pollutants generated during the widening of Sierra and Whiskey Taxiways and replacement of Pads 12 and 13. Air quality effects would be minor unless the emissions exceeded the general conformity rule *de minimis* (of minimal importance) threshold values, exceeded the GHG threshold in the draft CEQ guidance, or contributed to a violation of any Federal, state, or local air regulation.

The General Conformity Rule is divided into two distinct areas: applicability and determination. An applicability analysis is required for all federal agencies where the total direct and indirect emissions for criteria pollutants in a nonattainment or maintenance area. Prince George's County is, moderate nonattainment for 8-hour O_3 (1997), marginal nonattainment for 8-hour O_3 (2008), and a nonattainment for $PM_{2.5}$. The General Conformity Rule applies to the proposed action. An applicability analysis has been performed and has determined the criteria pollutants are all below the General Conformity Rule *de minimis* thresholds.

Construction and demolition emissions were estimated for fugitive dust, on- and off-road diesel equipment and vehicles, crushing concrete on site during demolition, concrete batch plant operations, material handling, worker trips, and heavy truck operations (Table 3-6). Only cutback asphalt is an appreciable source of VOC emissions during any paving operation, and it is prohibited (except as a penetrating prime coat) under state regulations applicable to the region (USEPA 1995, COMAR 26.11.11.02). The estimated emissions from the proposed action would be below the *de minimis* thresholds and a formal conformity determination is not required. These effects would be minor. Detailed emission calculations are in Appendix B.

Table 3-6.
Estimated air emissions compared to *de minimis* thresholds

Activity/Source	CO[a]	NO_x	VOC	SO_x	PM_{10}[a]	$PM_{2.5}$	*De minimis* threshold (tpy)[b]	Exceeds *de minimis* threshold? (yes/no)
Construction emissions	14.0	24.6	3.5	<0.1	7.0	2.0	100(50)	No
Operational emissions	<*none*>						100(50)	No

Notes:

CO = carbon monoxide, *de minimis* = of minimal importance, NO_x = oxides of nitrogen, $PM_{2.5}$ = particulate matter less than 2.5 microns in diameter, PM_{10} = particulate matter less than 10 microns in diameter, SO_x = oxides of sulfur, tpy = tons per year, VOC = volatile organic compound.

[a] Although the general conformity rule does not apply to these pollutants, they have been compared to the applicability thresholds to determine the level of effects under NEPA.

[b] Because the project is in the Ozone Transport Region, the *de minimis* threshold for VOC is 50 tpy.

For purposes of analysis, it was assumed that all construction and demolition activities would be compressed into one 2 ½-year period. Therefore, regardless of the ultimate implementation schedule, annual emissions would be less than *de minimis* thresholds and the general conformity rules would not apply. Small changes in ultimate design and moderate changes in quantity and types of equipment used would not substantially change these emission estimates; nor would they change the determination under the general conformity rule or level of effects under NEPA.

MDE outlines requirements with which a contractor must comply during construction, such as controlling fugitive dust and open burning. Construction and demolition would proceed in full compliance with current MDE requirements, with compliant practices and/or products. These requirements include the following:

- Visible emissions (COMAR 26.11.06.02)
- Asphalt paving operations (COMAR 26.11.11.02)
- Open fires allowed without authorization (COMAR 26.11.07.05)
- Portable fuel containers (COMAR 26.11.13.07)
- Architectural coatings (COMAR 26.11.33.00)

- Consumer products (COMAR 26.11.32.00).

This list is not all-inclusive; the Air Force and any contractors would comply with all applicable air pollution control regulations.

Construction dust or emissions from construction equipment could pose a short-term hazard to aviation by reducing visibility. Dust could result when wind disturbs uncovered fill or open excavations. Trucks and equipment traveling on unimproved construction roads could also stir up dust, impairing visibility. All precautions to control fugitive dust emissions from construction materials and activities would be managed so as to minimize the production of dust, glare, and smoke. All persons responsible for any operation, process, handling, transportation, or storage facility that could result in fugitive dust would take reasonable precautions to prevent such dust from becoming airborne. Reasonable precautions might include using water to control dust from building construction and demolition, road grading, or land clearing.

Greenhouse Gases and Climate Change. All construction activities combined would generate approximately 5,336 tons (4,851 metric tons) of CO_2, which would be below the CEQ threshold. There would be no changes in operational GHG emissions. These effects would be minor.

No Action Alternative. No effect on air quality would result from selecting the No Action Alternative. There would be no short- or long-term changes in emissions due to the action. Ambient air quality would remain unchanged when compared to existing conditions.

3.3 SAFETY AND OCCUPATIONAL HEALTH

3.3.1 Affected Environment

Potential safety issues at JBA include AT/FP, explosive, flight, and construction jobsite safety associated with activities conducted at the Base. The JBA General Plan specifically describes safety and security requirements that have been implemented for various areas of the installation. General security and safety requirements are incorporated into all projects.

Day-to-day operation and maintenance activities conducted at JBA 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. In addition, DoD and the Air Force have developed force protection guidelines for military installations as a result of terrorist activities—*DoD Minimum Antiterrorism Standards for Buildings (UFC 4-010-01) and USAF Installation Force Protection Guide*.

All contractors performing construction activities are responsible for complying with Air Force safety and Occupational Safety and Health Administration (OSHA) regulations. They 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 hazardous materials (HAZMAT), use of personal protective equipment, 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.

3.3.2 Environmental Consequences

Proposed Action. No adverse effects on safety and occupational health would be expected from implementing the proposed action. All contractors would abide by applicable safety requirements, and replacing taxiways and pads would not result in a change in operational safety practices. During and after construction, all airfield operations would continue to be conducted in accordance with JBA safety procedures.

No Action Alternative. No effects on safety and occupational health would be expected from implementing the No Action Alternative. Construction safety would not be an issue under the No Action Alternative. Workplace safety would remain unchanged.

3.4 EARTH RESOURCES

3.4.1 Affected Environment

Geology. The Coastal Plain of southern Maryland, on which JBA is located, is composed of unconsolidated sedimentary geologic units that range in age from the Quaternary Period (1.5 million years ago) to the Cretaceous Period (144 to 65 million years ago). These geologic units are made of unconsolidated sand, gravel, silt, clay, and organic materials that overlay bedrock. The surficial geologic 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. Surface formations at JBA have largely been previously disturbed by grading activities in support of facility construction (Department of the Air Force 2012).

Topography. JBA is on the western side of the middle Atlantic Coastal Plain Physiographic Province, which is characterized by generally level to gently sloping terrain with local relief of less than 100 feet, except in association with steep stream banks. JBA sits on a plateau between the Anacostia River and the Patuxent River. Surface elevations at the Base range from about 215 feet above mean sea level (msl) to 281 feet above msl (Department of the Air Force 2012). The airfield lies at about 240 to 280 feet above msl (USGS 2011).

Soils. Because of the considerable amount of development over the years at JBA, approximately 50 percent of the soils on the Base are categorized as Udorthents, signifying land that is altered by disturbance to the extent that the original soil series cannot be identified. The U.S. Department of Agriculture, Natural Resources Conservation Service, has classified the soils of the airfield as Udorthents (USDA-NRCS 2012). These soils are described as being loamy with a 5 to 15 percent slope, well drained, not susceptible to flooding or ponding, and with a depth to restrictive feature of more than 80 inches.

3.4.2 Environmental Consequences

Proposed Action. No significant adverse effects on geology, soils, or topography on JBA would be expected if the proposed action was implemented. Short-term minor adverse effects on soils would be expected from implementing the proposed action. Soils within the project area would be disturbed during construction, but sediment and erosion control measures would be designed to meet MDE criteria, including the mandatory implementation of environmental site design (ESD) features to the maximum extent practicable to prevent the degradation of surface waters through

sedimentation. Construction projects that disturb an area of more than 5,000 SF require MDE's approval of a sediment and erosion control plan. Erosion control measures in accordance with the MDE's *Erosion & Sediment Control Guidelines for State and Federal Projects* would be implemented during construction. A set of construction plans, including a detailed sediment and erosion control plan, would be provided to the Water Management Administration of MDE for approval. The approved sediment and erosion control plan would be part of the National Pollutant Discharge Elimination System (NPDES) permit, which would also serve as the project stormwater pollution prevention plan.

No Action Alternative. No effects on geology, topography, or soils would be expected from implementing the No Action Alternative. No soil disturbance would result under the No Action Alternative.

3.5 WATER RESOURCES

3.5.1 Affected Environment

Surface Water. The main base portion of JBA is within portions of the Potomac River and Patuxent River watersheds. Most of the Base, including the areas that would be disturbed under the proposed taxiway actions, is in the drainage of Piscataway Creek, a tributary of the Potomac River.

Piscataway Creek is identified by Maryland as an impaired water under Section 303(d) of the federal Clean Water Act. The creek is identified as being impaired by bacteria and biological causes in its non-tidal portions.

EPA published regulations addressing stormwater discharges under the NPDES permitting program. EPA delegated to MDE the authority to administer the NPDES program in Maryland. JBA maintains coverage under MDE's General Discharge Permit (GDP) for industrial activities (GDP No. 02-SW) and under MDE's GDP for discharges by Municipal Separate Stormwater Sewer System operators (No. 05-SF-5501). JBA is also required to comply with the requirements of EPA's Chesapeake Bay Total Maximum Daily Load (TMDL) and EO 13508, *Chesapeake Bay Protection and Restoration.*

The taxiways and pads would be designed in accordance with EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*; the Energy Independence and Security Act (EISA) of 2007; and the current version of the *Maryland Stormwater Management Guidelines for State & Federal Projects*. A sediment and erosion control plan approval by MDE would be implemented.

The Piscataway Creek watershed is impaired in nontidal areas by bacteria and biological elements (MDE 2012). A TMDL for bacteria has been prepared for the nontidal portion of Piscataway Creek, and a TMDL for biological elements will be prepared.

Groundwater. Regional water-supply aquifers are several hundred feet below ground surface. Groundwater underlying the main base occurs at or near the ground surface, with shallow groundwater occurring at depths of less than 20 feet below ground surface, likely under unconfined conditions. Groundwater recharge occurs primarily through precipitation.

Floodplains. Floodplains on JBA are generally limited to small streams and the area immediately adjacent to the streams (Department of the Air Force 2012). No floodplain areas are on the proposed sites for the taxiway and pad replacement work.

Wetlands. EO 11990 (*Protection of Wetlands*) directs Federal agencies to minimize the destruction, loss, and degradation of wetlands and to preserve and enhance the natural and beneficial values of wetland communities. EO 11990 also requires a Federal agency to prepare a FONPA when there is no practicable alternative to construction in a wetland. The lack of alternatives other than the proposed action is discussed in section 2.3. In accordance with the Clean Water Act (33 U.S.C. 1251 *et seq*.), projects at JBA that involve dredging or filling wetlands would require section 404 permits from the USACE and a Nontidal Wetland Permit from MDE.

Wetlands identified on JBA include palustrine forested wetlands and palustrine emergent wetlands, both of which are present primarily along streams and drainageways. Some palustrine scrub/shrub wetlands and palustrine unconsolidated bottom wetlands have also been identified on the Base (89 AW 2004). The USACE re-delineated wetlands on the airfield in 2012. Two areas of wetlands are within the limits of the project area (see Figures 2-2 and 2-3). The wetland areas identified in proximity to Taxiways Whiskey and Sierra are palustrine emergent wetlands—marshy areas with herbaceous wetland vegetation. The wetlands of the airfield alter stormwater flow patterns, retain sediment and toxics that might be in stormwater, remove nutrients from stormwater, recharge groundwater, and provide a limited amount of wildlife habitat.

Coastal Zone. JBA is within the designated Maryland coastal zone. When a federal agency conducts an activity or development project, or has an activity performed by a contractor for the benefit of the federal agency, the agency must determine whether its activities are reasonably likely to affect any coastal use or resource and to conduct the activities in a manner that is consistent to the maximum extent practicable with the enforceable policies of the applicable state coastal program. The federal agency must provide a consistency determination and supporting materials to the state Coastal Zone Management Program agency at least 90 days before starting the proposed activity (unless a different arrangement has previously been made between the federal agency and the authorized state agency) (Ghigiarelli 2004). An assessment of the consistency of the proposed activities with the enforceable policies of the Maryland Coastal Program is in Appendix D.

3.5.2 Environmental Consequences

Proposed Action. No adverse effects on surface waters, groundwater, or floodplains would be expected under the proposed action. JBA and its contractors would implement measures in accordance with the *Maryland Stormwater Management Guidelines for State & Federal Projects.* Stormwater BMPs used would ensure that additional stormwater runoff from the increase in impervious surface area attributable to taxiway widening would not appreciably change predevelopment runoff characteristics. An MDE-approved sediment and erosion control plan would be developed to ensure that there would be no project-related bacteria or biological releases into the waters of Piscataway Creek and no discharges that would impair or degrade the water quality of Piscataway Creek.

Adverse effects on wetlands would be mitigated to non-significance. A 2012 USACE delineation of wetlands on the airfield indicates that replacing Taxiway Whiskey would impact 0.03 acre of wetlands and replacing Taxiway Sierra would impact 0.36 acre of wetlands (HDR 2012a, b, c). No wetlands would be disturbed by replacing Pads 12 and 13. JBA intends to mitigate the

permanent impacts of the taxiway project on JBA's USACE jurisdictional wetlands airfield by in-kind, off-site creation or restoration of wetlands. The proposed mitigation site is on the Hancock Property in Charles County, Maryland, near the city of La Plata. The Hancock property is a site of more than 323 acres of farmland and high- quality wetlands of the Zekiah Swamp Run, which has been designated an Ecologically Significant Area by the Maryland DNR Biodiversity Conservation Network. The proposed wetland mitigation would aid in the conservation and preservation of the Zekiah Swamp Run. JBA would work with USACE and MDE to define the specific mitigation plan. It is anticipated that the taxiway replacement project will qualify for a Nationwide Permit because of the small size of the impacts. The Joint Permit Application has been prepared and submitted to the MDE and the USACE Baltimore District (see Appendix A). A FONPA for the wetland impacts caused by the proposed project has been prepared. JBA or its contractor would comply with any mitigation requirements of the USACE and MDE permits for the wetland impacts associated with the proposed project. If the wetland impact cannot be mitigated to less than significant by in-kind, off-site creation or restoration of wetlands, USAF would mitigate to less than significant impacts by compensating the loss through a payment to the Maryland Nontidal Wetland Compensation Fund.

No Action Alternative. No effects on surface waters, groundwater, floodplains, or wetlands would be expected from implementing the No Action Alternative. No ground disturbance would occur under the No Action Alternative, so there would be no impacts on water resources.

3.6 INFRASTRUCTURE/UTILITIES

3.6.1 Affected Environment

JBA is served by all utility services—water, wastewater, gas, electricity, and communications—but not all the system infrastructures are present within the proposed project area. Implementation of the proposed project would require use of most of the systems. Each system is discussed separately below.

Potable Water System. Fire hydrants, but no other elements of the potable water system, are present within the proposed project area. Water transmission lines were installed under the West Apron and along the east side of Taxiway Whiskey in 2003.

Sanitary Sewer System. No element of the sanitary sewer system infrastructure is present within the proposed project area.

Stormwater System. The stormwater system on the airfield consists of primary drainage lines running primarily north to south and secondary connecting lines running primarily east to west. East-west storm drainage lines cross under Taxiway Whiskey at various locations, and a north-south line crosses under Taxiway Sierra at one location. All pipes crossing under Taxiway Whiskey are recommended for replacement because of deficient capacity or deficient structural integrity. The storm drainage pipes under Taxiway Sierra are hydrologically sound and would be left in place.

Most runoff from the project area flows generally north to south through a storm drainage network from a location just south of Taxiway November to an outlet on Piscataway Creek south of Taxiway Sierra. It is treated by the stream to the south, which contains an oil/water separator. Runoff from part of the northern section of Taxiway Whiskey and Pads 12 and 13 flows to Henson Creek, a tributary of the Potomac River.

Stormwater runoff is conveyed through these and other underground culverts and is discharged from storm drain outfalls into the creeks on and near the Base, which flow to the Potomac and Patuxent rivers. The stormwater drainage network on the airfield is considered to be in need of repair and replacement.

Solid Waste. Solid waste management at JBA includes the collection and disposal of nonhazardous solid wastes, recycling, and disposal of infectious and pathological wastes. No active landfills are on JBA, and most solid waste from the Base is transported to off-base landfills. No element of the solid waste collection and disposal system infrastructure is within the proposed project area.

Electrical System. The Potomac Electric Power Company provides electrical power to JBA. Some primary underground electrical lines cross the airfield. Lines cross in one location under each of the two taxiways. No lines cross under Pad 12 or Pad 13. There are no overhead electrical lines on the airfield.

The airfield lighting at JBA consists of runway lighting, taxiway lighting, and alignment approach lighting systems. Electricity to the lighting system is supplied through underground lines on the airfield. The airfield lighting control system was replaced in 2003 with a current state-of-the-art control system. Two emergency generators for airfield lighting are housed in a building on the airfield.

Natural Gas System. The Washington Gas and Light Company supplies natural gas to JBA through seven connection points. No element of the natural gas system infrastructure is present within the proposed project area.

Heating and Cooling Systems. No heating or cooling infrastructure is present within the project area.

Liquid Fuels System. JBA receives JP-8 fuel through a commercial pipeline that flows into contractor-owned fuel tanks. No element of the fuel system infrastructure is present within the Taxiway Sierra or Pad 12 or 13 proposed project area. Pipelines of the system run parallel to Taxiway Whiskey along part of its length and a pipeline of the system runs under Taxiway Whiskey at one location.

Communication System. The communications system at JBA consists primarily of a local-area fiber-optic-cable network and underground communication system cabling. Communication lines run north to south and east to west in the airfield. Lines pass under Taxiway Whiskey at three locations, under Taxiway Sierra at four locations, parallel to Taxiway Whiskey along part of its length, and under Pad 13.

3.6.2 Environmental Consequences

Proposed Action. No adverse effects on infrastructure elements would be expected from implementing the proposed action. Details pertaining to systems that would be affected by implementing the proposed action are provided below.

Potable Water System. During reconstruction of Taxiway Whiskey, an existing water line that passes beneath Taxiway Charlie would be encased within a larger line to protect the existing line from being crushed. Other water lines in the airfield, including new lines installed east of

Taxiway Whiskey and beneath the West Apron in 2003, would not be affected under the proposed action. Existing flush-mounted fire hydrants would be removed, and new flush-mounted fire hydrants would be installed east of the new taxiway shoulder in accordance with UFC 3-260-0, Part B13-2.20.2.3, *Fire Hydrants (Non-Frangible)*.

Stormwater Drainage System. Existing storm drainage lines within the Taxiway Whiskey work limits would be replaced with pipes that are one pipe diameter larger than the existing pipes. The storm drainage lines within the Taxiway Sierra work limits would be left in place. The entire airfield storm drainage system is being analyzed, and appropriate structural elements that integrate drainage requirements for the new Taxiways Whiskey and Sierra into the airfield drainage system would be incorporated into the taxiway replacement designs. Storm drainage requirements for the taxiways would be met by incorporating vegetated dry swales or a similar measure into the taxiway designs.

Solid Waste. No adverse effects on the solid waste collection or disposal systems at JBA would be expected from implementing the proposed action. All solid waste—including construction, demolition, and land-clearing debris—would be disposed of at a permitted solid waste acceptance facility or would be recycled, in accordance with applicable regulations.

Electrical System. The changes to Taxiway Whiskey would include new taxiway edge lights, new taxiway centerline lights, and reinstallation of ILS hold location lighting for lights impacted by Runway 1L-19R fillet reconstruction. Duct banks would be installed under Taxiway Whiskey during project execution. The exact location of each duct bank would be confirmed as the design was finalized.

Liquid Fuels System. A preliminary review indicates that the active fuel lines below Taxiway Whiskey would not be in conflict with pavement replacement and that fuel line reconstruction would not be required as part of the taxiway replacement. The abandoned fuel lines present beneath the West Apron would be removed during project implementation (HDR 2012a,b).

Communications System. Communication lines within the project area would not be affected under the proposed action.

No Action Alternative. No effects on infrastructure systems would be expected under the No Action Alternative. No infrastructure or utility systems would be disturbed if the No Action Alternative was implemented.

3.7 TRANSPORTATION

3.7.1 Affected Environment

Transportation near JBA is achieved mainly via road and street networks and pedestrian walkways. Regional access is provided by Interstate (I)-95 and I-495. State routes that provide access to the area include Route 337, 223, 4, and 5; Pearl Harbor Drive, Perimeter Road, Wisconsin Road, Watertown Road, Fetchet Avenue, Patrick Avenue, Fairbanks Street, and Nevada Avenue provide direct access to the sites. The average annual daily traffic (AADT) is the average number of vehicles traveling along a roadway each day. Table 3-7 lists the routes near the proposed sites and in the area along with their AADT. Notably, some of the nearby roadways are already congested during peak traffic periods.

Table 3-7.
Existing AADT on nearby roadways

Roadway	Average annual daily traffic (AADT) [vpd]
Route 337	31,643
Route 4	27,270
Route 5	23,000
I-495	17,000
I-95	35,000

Sources: MDOT 2012, ITE 2003.
Note: vpd = vehicles per day.

Air, Rail, and Public Transportation. The closest international airport is Ronald Reagan Washington National Airport, which is 15 miles away and has 785 operations per day (AirNav 2012). Other nearby airports are Baltimore-Washington International Airport and Washington Dulles International Airport.

The closest Amtrak station is 56 miles away in Union Station in Washington, D.C.

Three public agencies provide transit service to the area surrounding JBA: Washington Metropolitan Area Transit Authority, the Maryland Transit Administration, and "The Bus" of Prince George's County. Commuters must walk to and from any public transit stops and through the entry control facilities to their Base destination or JBA shuttle stop. Two bus routes have at least two stops within a quarter-mile of the intersection of Suitland Road and Allentown Road outside the Main Gate at JBA (JBA 2011).

3.7.2 Environmental Consequences

Proposed Action. No significant adverse effects on the JBA or surrounding transportation system would be expected if the proposed action was implemented. Short-term minor adverse effects would be expected. Short-term effects would be caused by additional truck traffic and day-labor traffic during construction and demolition. The widening of Sierra and Whiskey Taxiways and replacement of Pads 12 and 13 would have no appreciable effect on local air, rail, or public transportation.

Construction and demolition activities would have short-term minor adverse effects on transportation and traffic. These effects would be due to worker commutes and delivery of equipment and materials to and from the staging areas, the batch plant, and the construction sites. On average, there would be approximately 20 trucks per day to and from the staging areas and worksites delivering concrete, raw materials, and supplies. During construction, traffic would increase on off-base roadways leading to Pearl Harbor Gate (Routes 223, 4, and Dowe House Road) and on haul routes. When feasible, contractors would depart the airfield before and during distinguished visitor movements. The airfield might experience minor delays in operations, and some temporary closures of the west runway could occur. However, construction would be scheduled so as to minimize potential interruptions. These effects would be temporary in nature and would stop with the end of the project.

The existing transportation infrastructure would be sufficient to support the increase in vehicle traffic. Although the effects would be minor, contractors would route and schedule construction

and demolition vehicles to minimize conflicts with other traffic and airfield operations. Contractors would have strategically located staging areas and haul routes to minimize traffic impacts. All construction and demolition vehicles would be equipped with backing alarms, two-way radios, and "Slow Moving Vehicle" signs when appropriate.

No Action Alternative. No effects on the transportation system would result from selecting the No Action Alternative. No construction and demolition would occur, and no long-term changes in transportation would take place. Traffic and transportation conditions would remain unchanged when compared to existing conditions.

3.8 HAZARDOUS MATERIALS AND WASTES

3.8.1 Affected Environment

The term *hazardous materials* refers to substances defined as hazardous by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the term *hazardous waste* refers to wastes defined as hazardous by the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA). Hazardous materials are substances that, because of their quality, concentration, or physical, chemical, or infectious characteristics, could present substantial danger to public health or the environment when released into the environment. Under 40 CFR Part 261, hazardous wastes that are regulated under RCRA are defined as solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either are listed or exhibit one or more of the hazardous characteristics. Petroleum products—including petroleum-based fuels, oils, and their wastes—are not covered under CERCLA but might be covered under RCRA. Issues associated with hazardous materials and wastes typically center on waste streams; underground storage tanks; aboveground storage tanks; and the storage, transport, use, and disposal of pesticides, fuels, lubricants, and other industrial substances.

Hazardous and Petroleum Wastes. Operations conducted at JBA require the use and storage of hazardous materials, primarily associated with aircraft operations. The 11th Wing and its tenants produce more than 2,205 pounds of hazardous waste per month. Primary types of hazardous wastes generated include batteries, used fuel and oil, solvents, fluorescent bulbs, rags, fuel filters, and solvent-contaminated solids. Most of the hazardous waste is generated as a result of aircraft operations (Department of the Air Force 2012). JBA is regulated as a large-quantity generator of hazardous wastes under EPA identification number MD0570024000.

Near the southern end of Taxiway Whiskey is an environmentally sensitive area, designated FT-02, where trichloroethylene (TCE) is in the groundwater. JBA environmental staff have indicated that the limits of the TCE contamination could extend beyond the southern end of Taxiway Whiskey and could include the western end of Taxiway Sierra (HDR 2012b). No TCE has been encountered in borings taken at depths of up to 20 feet.

Another environmentally sensitive area that was used as a firing-in buttress in the 1940s (designated ERP site FI-346) is underneath the pavement near the intersection of Taxiway Sierra and the West Runway. The buttress was bulldozed during airfield construction in the 1950s and is spread out under the airfield pavement, but there could be some bullets in the soil. Lead levels that are elevated (but lower than the 400-ppm action level) have been detected in that region. EPA's action level for lead in soil is 400 ppm, but it may change in the next couple of years to 40 ppm.

An abandoned water line with asbestos-containing material piping is within the project area. It would be removed in accordance with applicable laws, regulations, and policies.

3.8.2 Environmental Consequences

Proposed Action. No adverse effects on hazardous materials and wastes would be expected if the proposed action was implemented. Within the area where TCE is present in the groundwater, cuttings from borings advanced into contaminated soils would be stockpiled and tested. TCE contaminants generally dilute to lower-than-required remediation levels once exposed to evaporation, so excavation in the TCE layer could be safely accomplished and the excess soils safely wasted. TCE is typically transported through the groundwater table, and it would not be expected that TCE would be encountered in shallow pavement borings.

Construction contractors would scan the soils under pavement that is removed from the firing-in buttress area with X-ray fluorescence, and samples would be analyzed. If contaminant levels exceeded action levels, the soil would be removed and disposed of and replaced with clean fill.

No Action Alternative. No effects on hazardous materials and wastes would be expected under the No Action Alternative. No hazardous materials and wastes would be used, stored, or disposed of under the No Action Alternative.

3.9 BIOLOGICAL RESOURCES

3.9.1 Affected Environment

Vegetation communities at JBA include extensively managed landscape areas (improved areas) and unmanaged patches of natural plant communities (USACE Baltimore District 2007). The intensely managed areas include lawns, gardens, golf course fairways, ponds, bare ground, and recreational fields. Semi-improved areas include runway borders, the infield, and approach clear zones. The remaining unimproved areas contain ecological communities, such as mixed hardwood forests, mixed hardwood/pine forests, oak forests, oak/hickory forests, oak/pine forests, pine forests, red maple swamp, and shallow emergent marsh. Typical forest species in the remaining woodlands at or near JBA include chestnut oak (*Quercus prinus*), white oak (*Q. alba*), black oak (*Q. velutina*), northern red oak (*Q. rubra*), southern red oak (*Q. falcate*), sugar maple (*Acer saccharum*), red maple (*A. rubrum*), loblolly pine (*Pinus taeda*), Virginia pine (*P. virginiana*), mockernut hickory (*Carya tomentosa*), black gum (*Nyssa sylvatica*), sweetgum (*Liquidambar styraciflua*), American beech (*Fagus grandifolia*), yellow poplar (*Liriodendron tulipifera*), common hackberry (*Celtis occidentalis*), and American holly (*Ilex opaca*). Mountain laurel (*Kalmia latifolia*), highbush blueberry (*Vaccinium corymbosum*), and Christmas fern (*Polystichum acrostichoides*) are common in the understory. Vegetation within the project area includes mowed grass for airfield turf management and shallow emergent marsh and isolated scrub-shrub wetlands. (Wetlands are discussed in the Water Resources section.) There are no sensitive plant communities near the project area.

The wildlife of JBA is typical of the mid-Atlantic region (USACE Baltimore District 2007). Eighty-four bird species have been identified at JBA, including geese, herons, passerines, and birds of prey. Migratory birds, especially waterfowl, are common at the Base because of the ponds and wetlands and the proximity of JBA to the Chesapeake Bay. Reptiles found at JBA include common species of snakes, lizards, and turtles. Mammals known to occur at JBA are also those common in the region, including white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), eastern gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus*

floridanus), and several bat species. No animal species are noted in the JBA Integrated Natural Resources Management Plan (USACE Baltimore District 2007) as inhabiting the airfield. White-tailed deer occasion onto the airfield through breaches in the perimeter fence, and JBA has a deer depredation permit from MDNR to harvest deer and keep the deer population under control for safety reasons. Birds roost in many hangars and occasional requests made by residents of Base family housing for removal of rats, snakes, bats, Virginia opossums (*Didelphis virginiana*), and raccoons, but if these animals occur on the airfield it is only as transients because of the lack of suitable habitat.

Surveys for rare, threatened, and endangered species have identified 21 rare, threatened, or endangered plant species as occurring on JBA property (USACE Baltimore District 2007). Of those 21 species, only six (the federally listed sandplain gerardia [*Agalinis acuta*] and the state-listed blunt-leaved gerardia [*Agalinis obtusifolia*], Curtiss' three-awn [*Aristida curtissii*], spiral pondweed [*Potamogeton spirillus*], swollen bladderwort [*Utricularia inflate*], and tall nutrush [*Scleria triglomerata*]) have been recorded in the main base area, but none of the occurrences were within the boundaries of the airfield (Figure 3-2) (USACE Baltimore District 2007). During surveys all six species were observed on JBA in 1993, three of the six were observed in 1996–1997, one was observed in 2004, and none were observed in 2006. The U.S. Fish and Wildlife Service does not list any federally listed species as occurring within the project area (see Appendix A).

The only federally listed species present at JBA is the sandplain gerardia; the only known population of the sandplain gerardia is south of the flightline near the 13th tee of the golf course (USACE Baltimore District 2007). The habitat is protected by fencing and signage that warns of the presence of a protected species. Five state-listed species have been observed at JBA, but none of the species was identified in the most recent survey in 2006. No protected species are supported by habitats within the project area.

3.9.2 Environmental Consequences

Proposed Action. No significant adverse effects on biological resources would be expected from implementing the proposed action. The proposed airfield project would not impact a protected species or affect a natural habitat. (Wetlands are discussed in the Water Resources section.) Minor impacts on wildlife in the vicinity of the airfield would result from noise generated during construction, but the airfield is actively managed for safety reasons to ensure that wildlife does not become resident on it, so no wildlife would be expected to be displaced by implementing the proposed action.

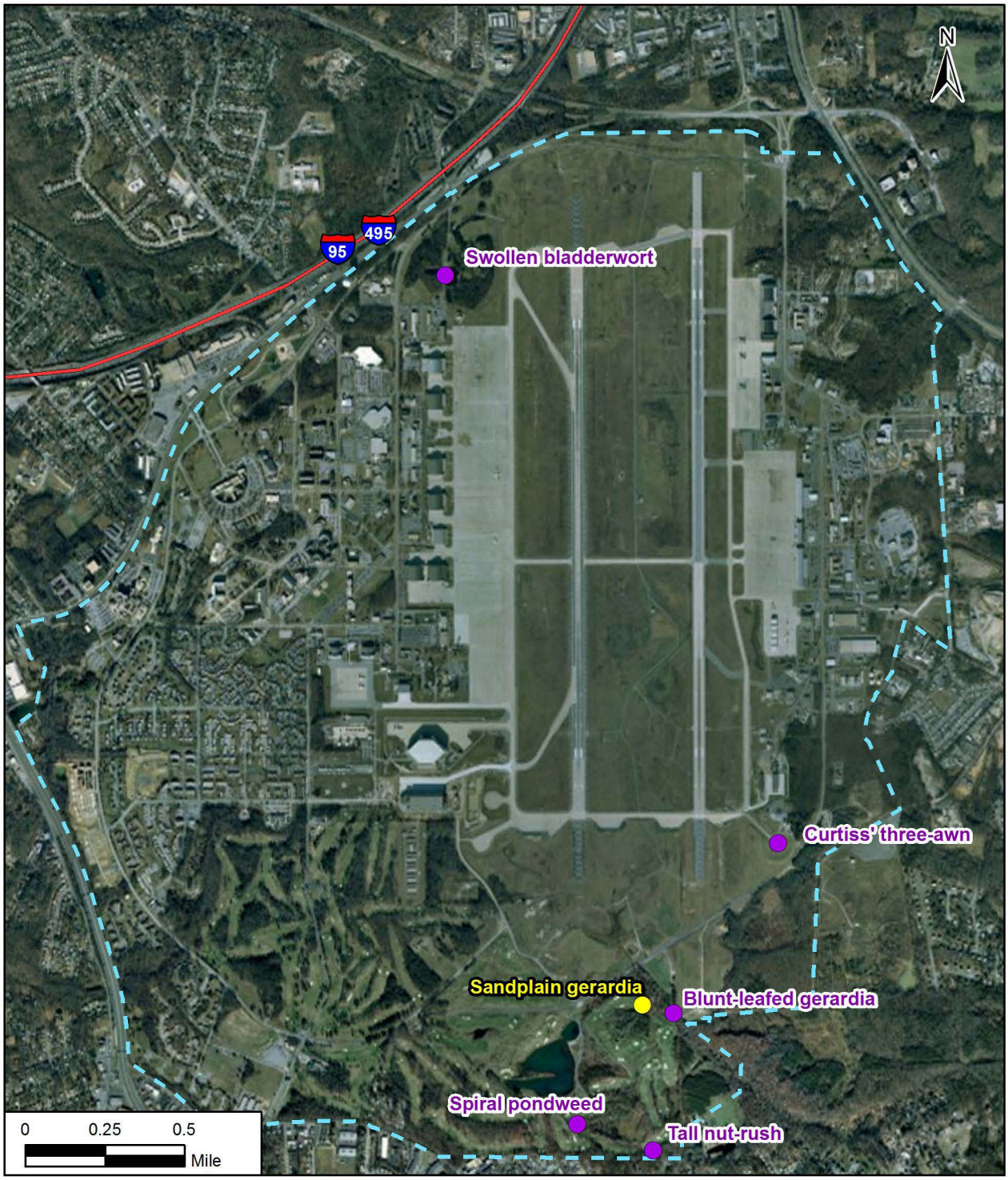
No Action Alternative. No effects on biological resources would be expected from implementing the No Action Alternative. No habitats would be disturbed under the No Action Alternative.

3.10 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

3.10.1 Affected Environment

For both historical and archaeological resources, the area of potential effects on cultural resources for the purposes of the proposed project in this EA consists of the area within the work limits for each taxiway and pad reconstruction task.

One aboveground historic property, Belle Chance (PG:77-14, determined to be eligible for the National Register of Historic Places), has been identified within the boundaries of JBA (USACE



Location of Rare, Threatened and Endangered Species

Figure 3-2

Baltimore District 2009). The Belle Chance property includes a 1912 dwelling, two auxiliary buildings, a cemetery, and one historic archaeological site (18PR447). The structures of the property were transferred to a housing privatization contractor in 2007, although the land that encompasses Belle Chance remains within the larger JBA boundary and under Federal ownership. The Belle Chance property is near the northwest boundary of JBA. No historic or archaeological properties are known to be within the footprint of the project proposed in the EA.

3.10.2 Environmental Consequences

Proposed Action. No effects on cultural resources would be expected from implementing the proposed project. No historic or archaeological properties would be disturbed by undertaking the proposed project.

No Action Alternative. No effects on cultural resources would be expected from implementing the No Action Alternative.

3.11 SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

3.11.1 Affected Environment

This section describes the economy and the sociological environment of the region of influence (ROI) surrounding JBA. An ROI is a geographic area selected as a basis on which social and economic impacts of project alternatives are analyzed. The ROI for the social and economic environment is defined as Prince George's County, Maryland. For comparative purposes, socioeconomic data also are presented for the state of Maryland and the United States.

3.11.1.1 Population

Population trends are presented in Table 3-8. The ROI's population increased by about 69,700 people (or 9 percent) between 2000 and 2011, a slower rate than that of the state and the nation. During the same period, Maryland's population grew by 10 percent and the United States' population grew by 11 percent. The ROI's projected population growth is expected to lag behind that of the state and the nation. The ROI's population is estimated to increase by 7 percent between 2011 and 2030; Maryland's population is projected to increase by 20 percent and the nation's by 17 percent.

Table 3-8.
Population

Jurisdiction	2000 population[a]	2011 population[a]	Change in population, 2000–2011	2030 projected population[b,c]	Projected change in population, 2011-2030
ROI (Prince George's County)	801,515	871,233	9%	928,300	7%
Maryland	5,296,486	5,828,289	10%	7,022,251	20%
United States	281,421,906	311,591,917	11%	363,584,435	17%

Notes:

[a] Source for 2000 and 2011 population: U.S. Census Bureau 2012b.

[b] Source for Prince George's County 2030 projected population: MDP 2010.

[c] Source for Maryland and United States 2030 projected populations: U.S. Census Bureau 2005.

3.11.1.2 Employment and Income

Employment. Table 3-9 lists labor force, employment, and unemployment data. ROI labor force and unemployment trends are about the same as those of the state and nation. The ROI labor force increased 8 percent between 2000 and 2011, lower than the Maryland labor force growth of 9 percent but the same as the US labor force growth. The ROI 2011 annual unemployment rate was 7 percent, the same as the Maryland state unemployment rate but lower than the national unemployment rate of 9 percent. Overall, the unemployment rates for the ROI, Maryland, and the nation have been increasing since 2007. October 2012 data (the most recent unemployment data available) show preliminary unemployment rates of about 7 percent for the ROI, about 6 percent for Maryland, and about 8 percent for the United States (BLS 2012).

Table 3-9.
Labor force and unemployment

Jurisdiction	2000 civilian labor force	2011 civilian labor force	Change in labor force, 2000–2011	2011 annual unemployment rate
ROI (Prince George's County)	430,406	464,524	8%	7%
Maryland	2,811,657	3,072,246	9%	7%
United States	142,583,000	153,617,000	8%	8%

Source: BLS 2012.

As of 2011, the primary ROI industries (on the basis of employment) were government and government enterprises (which includes Federal civilian and military, and state and local government); retail trade; health care and social assistance; construction; and professional, scientific, and technical services. Together these five industry sectors accounted for about 60 percent of regional employment (BEA 2012). The government and government enterprises industry sector (which includes JBA) was the largest industry in the region, employing about 98,100 people and accounting for 23 percent of total ROI employment (BEA 2012). JBA is a major contributor to the regional economy. The Base is home to more than 60 units, including 2 major headquarters; 6 wings; and about 17,000 Air Force, Air Force Reserve, Air National Guard, Army, Navy, and Marine Corps service members, civilians, and their families. JBA has an economic impact of more than $1 billion on the local community each year (JBA 2010).

Income. Table 3-10 lists per capita personal income (PCPI) and median household income. The ROI income levels were about the same as the state's but higher than the nation's. The ROI PCPI was $31,365. This PCPI was 91 percent of the Maryland state PCPI of $34,500 but 117 percent of the national PCPI of $26,708. The ROI median household income of $70,715 was 101 percent of the Maryland median household income of $70,004 and 140 percent of the national median household income of $50,502.

Table 3-10.
Income, 2011

Jurisdiction	PCPI	Median household income
ROI (Prince George's County)	$31,365	$70,715
Maryland	$34,500	$70,004
United States	$26,708	$50,502

Source: U.S. Census Bureau 2012a.

3.11.1.3 Environmental Justice and Protection of Children

Environmental Justice. EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations*, was issued by President Clinton on February 11, 1994. The EO requires that Federal agencies take into consideration disproportionately high and adverse environmental effects of governmental decisions, policies, projects, and programs on minority and low-income populations. The initial step in the environmental justice analysis process is identification of minority and low-income populations that might be affected by implementation of the proposed action.

Per CEQ guidance, 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 (CEQ 1997). The U.S. Census Bureau identifies minority populations as Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and other Pacific Islander, persons of two or more races, and persons of Hispanic or Latino origin. Minority population data are presented in Table 3-11. As of 2011, 85 percent of the ROI population was of a minority race or ethnicity. The ROI had a much higher percentage of minority populations compared to Maryland and the United States, which had populations composed of 46 percent and 37 percent minorities, respectively. The ROI's minority population is predominantly Black or African American (65 percent), followed by Latino or Hispanic (15 percent) (U.S. Census Bureau 2012b).

Table 3-11.
Minority and low-income populations

Jurisdiction	Minority population, 2011	All persons below poverty level, 2006–2010 5-year average
ROI (Prince George's County)	85%	8%
Maryland	46%	9%
United States	37%	14%

Source: U.S. Census Bureau 2012b.

Per CEQ guidance, poverty thresholds established by the U.S. Census Bureau are used to identify low-income populations (CEQ 1997). The Census Bureau defines a poverty area as a census tract with 20 percent or more of its residents below the poverty level. Poverty status is reported as the number of persons or families with income below a defined threshold level. As of 2011, the U.S. Census Bureau defined the poverty threshold level as $11,484 of annual income, or less, for an individual and $22,811 of annual income, or less, for a family of four (U.S. Census Bureau 2012c). Poverty data are presented in Table 3-11. Eight percent of ROI residents were classified as living in poverty, lower than the Maryland poverty rate of 9 percent and the national poverty rate of 14 percent. The ROI is not considered a low-income or poverty area.

Protection of Children. On April 21, 1997, President Clinton issued EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. This EO seeks to protect children from disproportionately incurring environmental health risks or safety risks. The EO recognizes that a growing body of scientific knowledge demonstrates that children might suffer disproportionately from environmental health risks and safety risks. These risks arise because:

- Children's bodily systems are not fully developed.

- Children eat, drink, and breathe more in proportion to their body weight.
- The size and weight of children can diminish protection from standard safety features.
- Children's behavior patterns can make them more susceptible to accidents.

On the basis of these factors, President Clinton directed each Federal agency to make it a high priority to identify and assess environmental health risks and safety risks that might disproportionately affect children. He also directed each Federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

JBA proposes to fully comply with EO 13045 by incorporating these concerns in decision-making processes supporting JBA policies, programs, projects, and activities. In this regard, JBA ensures that it would identify, disclose, and respond to potential adverse social and environmental effects on children in the area affected by a proposed action.

Children are present at JBA as residents and visitors (e.g., residing in on-base family housing or lodging, using recreational facilities, attending events). Precautions are taken for child safety through a number of means, including using fencing, limiting access to certain areas, and requiring adult supervision. The proposed action would occur on the JBA airfield, which is a secure area not adjacent to housing or facilities where children are present.

3.11.2 Environmental Consequences

3.11.2.1 Population, Employment, and Income (EIFS model results)

Proposed Action. The economic effects of implementing the proposed action are estimated using the Economic Impact Forecast System (EIFS) model, a computer-based economic tool that calculates multipliers to estimate the direct and indirect effects from a given action. Changes in spending and employment that would be caused by the proposed action to replace Taxiways Sierra and Whiskey and Pads 12 and 13 on the JBA airfield represent the direct effects of the actions. Using the input data and calculated multipliers, the model estimates ROI changes in population, employment, income, and sales volume, accounting for the total direct and indirect effects of the action.

For purposes of this analysis, a change is considered significant if it falls outside the historical range of ROI economic variation. To determine that range, the EIFS model calculates a rational threshold value (RTV) profile for the ROI. That analytical process uses historical data for the ROI and calculates fluctuations in sales volume, income, employment, and population patterns. The historical extremes for the ROI become the thresholds of significance (i.e., the RTVs) for social and economic change. If the estimated effect of an action falls above the positive RTV or below the negative RTV, the effect is considered significant. Appendix C discusses the methodology in more detail and presents the model inputs and outputs developed for this analysis.

No significant adverse effects on socioeconomics would be expected if the proposed action was implemented. Short-term minor beneficial effects on the regional economy would be expected, as determined by the EIFS model. The expenditures and employment associated with the proposed action would increase ROI employment, income, and sales volume (Table 3-12 and Appendix C). The economic benefits would be short-term, lasting for the duration of the construction period. Such changes in sales volume, employment, and income would fall within historical fluctuations (i.e., within the RTV ranges) and would be considered minor. No effects on population would be

expected. The proposed action does not include assigning new personnel from outside the region to JBA; therefore, this action would not change the population of JBA or the ROI.

Table 3-12.
EIFS model output

Variable	Projected total change	Percent change	RTV range
Sales (business) volume	$42,305,100	0.14%	-5.32% to 13.74%
Income	$7,735,217	0.04%	-4.48% to 11.72%
Employment	178	0.05%	-4.17% to 4.59%
Population	0	0.00%	-0.85% to 3.30%

Source: EIFS model.

No Action. No significant adverse effects on socioeconomics would be expected if the No Action Alternative was implemented. Long-term minor adverse effects would be expected. The existing inadequate and deteriorated airfield pavements have high repair and maintenance costs due to their age and condition. JBA would continue to pay high costs to maintain inadequate taxiways. If the taxiways were not widened per the proposed action, the Federal government would incur additional costs later because the taxiways would eventually need to be replaced to accommodate large, modern aircraft.

3.11.2.2 Environmental Justice and Protection of Children

Proposed Action. No effects on environmental justice and the protection of children would be expected from implementing the proposed action. The proposed action to replace Taxiways Sierra and Whiskey and Pads 12 and 13 on the JBA airfield would not result in disproportionate adverse environmental or health effects on low-income or minority populations or children. The proposed action does not have the potential to substantially affect human health or the environment by excluding persons, denying persons benefits, or subjecting persons to discrimination.

No Action. No effects would be expected. The No Action Alternative would not result in disproportionate adverse environmental or health effects on low-income or minority populations or children. The No Action Alternative is not an action with the potential to substantially affect populations covered by EO 12898 or 13405 by excluding persons, denying persons benefits, or subjecting persons to discrimination or disproportionate environmental or human health risks.

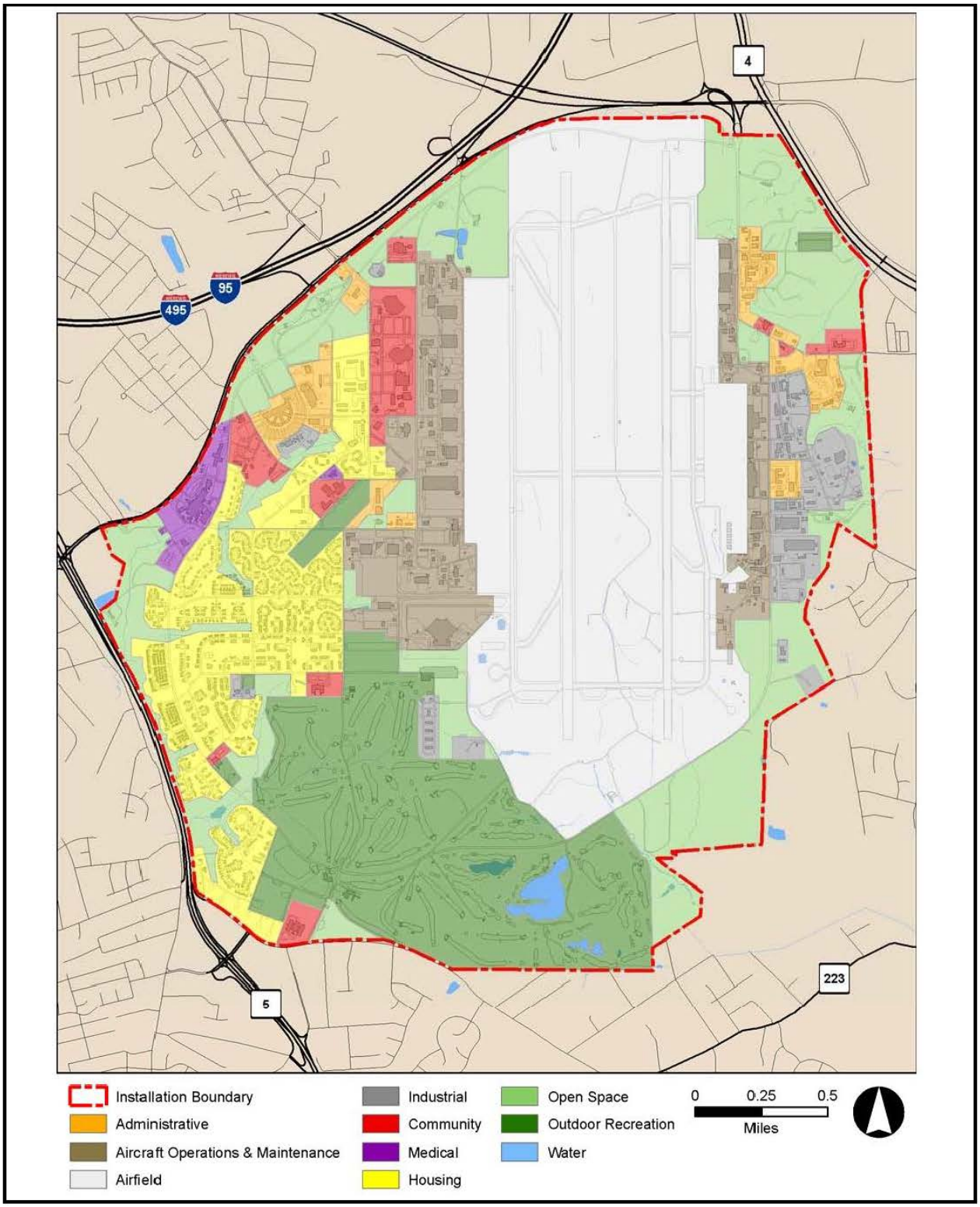
3.12 LAND USE AND VISUAL RESOURCES

3.12.1 Affected Environment

The main base has 4,390 acres divided into 10 land use classifications (Figure 3-3). The airfield land use occupies approximately 366 acres, or 8.3 percent of JBA's main base. The airfield separates JBA's western and eastern sections, which contain all other land uses on the Base.

3.12.2 Environmental Consequences

Proposed Action. No adverse effects on land use would be expected from implementing the proposed action. The proposed taxiway and pad replacement project would occur within the airfield land use area, and it would minimally affect nearby land uses. No areas of JBA would change land use designation because of implementing the proposed project.



Land Use

Figure 3-3

No Action Alternative. No adverse effects on land use would result from implementing the No Action Alternative. No land use changes would occur under the No Action Alternative.

3.13 SUSTAINABILITY AND GREENING

3.13.1 Affected Environment

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.

3.13.2 Environmental Consequences

***Proposed Action*.** No effects on sustainability and greening would be expected from implementing the proposed action.

***No Action Alternative*.** No effects on sustainability and greening would be expected from implementing the No Action Alternative.

SECTION 4.0
CUMULATIVE EFFECTS

Cumulative effects on 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 effects can result from individually minor but collectively substantial, actions taken over a period of time. In accordance with NEPA, a discussion of cumulative effects that could result from projects that are proposed or anticipated in the foreseeable future is required.

Known actions proposed over the next 5 years at JBA are listed below in Table 4-1. As an active military installation, JBA and its tenant organizations undergo changes in mission and training requirements in response to defense policies, current threats, and tactical and technological advances, and as such, require new construction, facility improvements, infrastructure upgrades, and ongoing maintenance and repairs on a continual basis. Known construction and upgrade projects are included in this analysis, although future requirements could change and alter the reality of cumulative effects. NEPA analysis will be conducted for future projects as necessary.

4.1 RESOURCE AREAS OF CONCERN

Table 4-1 summarizes the anticipated effects of the taxiway and pad replacement projects and the multiple projects analyzed in a previous Installation Development EA (IDEA). The two sets of projects overlap in having adverse effects on air quality, the noise environment, earth resources (soils), and transportation. These are the resource areas of concern with respect to cumulative effects from the totality of the projects.

Table 4-1.
Summary of potential environmental consequences

Resource	Environmental effects	
	Proposed action - Airfield	**Proposed action – IDEA**
Air quality	Short-term minor adverse	Short- and long-term minor adverse
Noise	Short-term negligible adverse	Short- and long-term minor adverse
Safety and occupational health	No effects	No effects
Earth resources	Short-term minor adverse	Short-term minor adverse
Water resources	No effects on surface waters Minor loss of wetlands	Short-term minor adverse No loss of wetlands
Infrastructure and utilities	No effects	Long-term minor adverse
Transportation	Short-term minor adverse	Short-term minor adverse
Hazardous materials and wastes	No effects	Short-term minor adverse
Biological resources	No effects	No effects
Cultural resources	No effects	No effects
Socioeconomics	Short-term minor beneficial	Short- and long-term minor beneficial
Environmental justice	No effects	No effects
Protection of children	No effects	Short-term minor adverse
Land use	No effects	No effects
Sustainability and greening	No effects	Long-term minor beneficial

4.2 PROJECTS POTENTIALLY CONTRIBUTING TO CUMULATIVE EFFECTS

Table 4-2 provides a list of known or anticipated projects projected to occur over the next 5 years at JBA, including the projects analyzed in this EA and the IDEA, and notes the anticipated year(s) of project implementation.

Table 4-2.
Projects that could contribute to cumulative effects

Project Name/Description	Anticipated Fiscal Year						
	2013	2014	2015	2016	2017	2018	2019
Airfield EA Projects							
Replace Taxiway Sierra	■	■					
Replace Taxiway Whiskey			■	■			
Replace Pads 12, 13					■	■	
IDEA Projects							
Replace CDC #1				■			
Replace West Fitness Center			■				
Construct HOF	■						
Construct Security Forces Group Complex				■	■	■	
Upgrade Main, Pearl Harbor, VA gates		■					
Replace Building 1988	■						
IDEA facility demolitions	■						
Facility demolition (ongoing)		■	■	■	■	■	■
Building 1845 parking lot addition	■						
Other Projects							
Regrade shoulder on Taxiway W-1			■				
Repair West Apron			■				
Taxiway Charlie reconstruction					■		
Taxiway November reconstruction						■	
West Runway extension					■		
ASA Phase II						■	
Construct addition to Building 1900						■	
Construct Consolidated Aircraft Supply Center						■	
Construct new BCE Complex – 11th Wing						■	
Construct 21-point enclosed range (2019)							■
Replace USAPAT facility					■		
Hot pit refueling pad					■		
Domino, hangar, taxiway, ramps						■	
Replace airfield stormwater infrastructure							■
Westphalia town development (Prince George's Co.)	■	■					

4.3 CUMULATIVE EFFECTS ANALYSIS

Most projects have some degree of adverse effect on air quality, and therefore some cumulative adverse effect on air quality from co-occurring projects is always anticipated. The CAA mandates that state agencies adopt SIPs that target the elimination or reduction of the severity and number of violations of the NAAQS. SIPs set forth policies to expeditiously achieve and maintain the NAAQS. Federal agencies are required to ensure that their actions conform to state SIPs. Conformity, as defined in the CAA, means reducing the severity and number of violations of the NAAQS to achieve attainment of the standards for nonattainment regions. EPA has developed two distinctive sets of conformity regulations: one for transportation projects and one for non-transportation projects. Air quality effects—including cumulative effects—are considered minor only when emissions exceeded the general conformity rule *de minimis* threshold values, exceeded the GHG threshold in the draft CEQ guidance, or contributed to a violation of any Federal, state, or local air regulation. *De minimis* thresholds for pollutants are generally 100 tpy (50 tpy for VOCs) (see section 3.2.2). Construction emissions for the taxiway and pad projects, assuming all projects occurred within a single 12-month period, would still be less than 25 tpy, and the construction projects analyzed in the IDEA would have cumulative pollutant emissions of less than 70 tpy (again assuming that all projects in the IDEA occurred within a single 12-month period). Therefore, the cumulative air emissions from projects anticipated to occur at JBA within any given year would not exceed the *de minimis* level and would, therefore, not be significant.

Effects on the noise environment are cumulative when the projects co-occur and are in close enough proximity to one another to contribute to the same noise environment. In general, construction projects are expected to have effects on the noise environment within an 800-foot distance from the project site (see section 3.1).

Taxiway Sierra would be replaced in the 2013–2014 time frame. Other projects anticipated to occur in the same time frame would not occur in the same general area as the Taxiway Sierra work (refer to Figure 3-1 for project locations). Therefore, the projects would not create cumulative effects on noise.

Taxiway Whiskey would be replaced in the 2015–2016 time frame. Other projects anticipated to occur in the same time frame include replacing the West Fitness Center, constructing a Security Forces Group Complex, ongoing facility demolition, regrading the shoulder on Taxiway W-1, and repairing the West Apron. Of these projects, only the latter two would be expected to contribute to cumulative effects on noise; the areas of noise effect of the other projects do not extend to the area of noise effect of the Taxiway Whiskey project.

Pads 12 and 13 would be replaced in the 2017–2018 time frame. Other projects anticipated to occur in the same time frame include reconstructing Taxiway Charlie, reconstructing Taxiway November, extending West Runway, a hot pit refueling pad project, and other airfield work (Domino, hangar, taxiway, and ramps). These projects could create cumulative effects on noise.

Construction noise attributable to the taxiway and pad projects, and of projects that would affect the same noise environment, would be in the area of ongoing airfield and aircraft operations. The airfield at JBA is the major noise environment at the base. Noise from normal aircraft operations would tend to mask the construction noise and minimize any project's individual noise effect or cumulative noise effect, and would be below the thresholds outlined in both state and county noise regulations. Cumulative effects on the noise environment, therefore, would be considered less than significant.

Cumulative impacts on soils occur when projects overlap spatially, although soil loss and conversion of soils from their natural state to an altered state can be considered a regional effect. Projects at JBA that disturb soils, however, are generally not considered to have adverse cumulative effects on soils because the soils at JBA are mostly Udorthents, or soils that have been previously disturbed, may be fill dirt, and no longer have the characteristics of the natural soils of the region. Soil loss from each project undertaken is controlled by the use of Maryland-approved erosion and control measures. Therefore, project at JBA are generally not considered to have cumulative effects on soils.

The effect of any project on transportation resources generally occurs as temporary interruptions of traffic patterns because of construction traffic or utility line work. None of the projects anticipated to occur over the next 5 years at JBA would have more than a negligible effect on off-base traffic. Construction traffic flow and utility work along roads would be carefully planned and scheduled by JBA to ensure that all essential traffic flow and routes remain open at critical times. Any cumulative effects that concurrent projects might have, therefore, would be minor.

4.4 UNAVOIDABLE ADVERSE EFFECTS

This EA identifies any unavoidable adverse impacts that would be required to implement the proposed action and the significance of the potential impacts to resources and issues. Title 40 of the *Code of Federal Regulations* Part 1508.27 specifies that a determination of significance require consideration of context and intensity. Replacement of the taxiways and pads would impact the local project area at the Base. The severity of potential impacts would be limited to regulatory compliance for the protection of the human and natural environment.

Unavoidable short-term adverse impacts associated with implementing the proposed action would include: temporary erosion and sedimentation from soils disturbance, a temporary increase in fugitive dust and air emissions during construction, intermittent noise, and minor alterations to local traffic and airfield operations. However, these effects are considered minor and would be confined to the immediate area. Use of environmental controls and implementing controls required in permits and approvals obtained would minimize these potential impacts. Unavoidable, long-term, adverse impacts would occur on up to 0.36 acre of wetlands during Taxiway Sierra replacement and 0.03 acre of wetlands during Taxiway Whiskey replacement.

For the proposed action to be accomplished, these impacts would occur. The action is required to ensure safe airfield operations in accordance with FAA regulations and Air Force guidance. No other alternatives would provide the engineering solution to meet the safety standards for this unique mission of national security, international diplomacy, and national capital region readiness.

4.5 RELATIONSHIP BETWEEN SHORT-TERM USES AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The relationship between short-term uses and enhancement of long-term productivity from implementation of the proposed action is evaluated from the standpoint of short-term effects and long-term effects. Short-term effects would be those associated with the construction activities to replace Taxiways Sierra and Whiskey and Pads 12 and 13. The long-term enhancement of productivity would be those effects associated with operation and maintenance of the taxiways and pads after implementation of the proposed action.

The proposed action represents an enhancement of long-term productivity for aircraft operations at the Base. The negative effects of short-term operational changes during construction activities would be minor compared to the positive benefits from replacement of the taxiways and pads. Immediate and long-term benefits would be realized for operation and maintenance after completion of the proposed action.

4.6 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

This EA identifies any irreversible and irretrievable commitments of resources that would be involved in the proposed action if implemented. An irreversible effect results from the use or destruction of resources (e.g., energy) that cannot be replaced within a reasonable time. An irretrievable effect results from loss of resources (e.g., endangered species) that cannot be restored as a result of the proposed action. The short-term irreversible commitments of resources that would occur would include planning and engineering costs, building materials and supplies and their cost, use of energy resources during construction, labor, generation of fugitive dust emissions, and creation of temporary construction noise. If avoidance and minimization of impacts is not sufficient, replacement of impacted wetland areas may be required to obtain authorization under section 404 and 401 of the Clean Water Act. No long-term irretrievable commitments of resources would result.

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USGS (U.S. Geological Survey). 1965. Anacostia quadrangle. District of Columbia-Maryland. 7.5-minute series. U.S. Department of the Interior, Geological Survey. Photo revised 1979.

Appendix A
Interagency and Intergovernmental Coordination for Environmental Planning

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 11TH WING (AFDW)
ANDREWS AIR FORCE BASE, MARYLAND 20762

16 November 2012

MEMORANDUM FOR: SEE DISTRIBUTION

FROM: 11 CES/CEA
3466 North Carolina Avenue
Joint Base Andrews, MD 20762-4803

SUBJECT: Description of Proposed Action and Site Map for Taxiway and Pad Replacement at Joint Base Andrews-Naval Air Facility Washington, Maryland

1. Joint Base Andrews is preparing an Environmental Assessment (EA) for replacement of two taxiways and two pads on the airfield of Joint Base Andrews-Naval Air Facility, Washington, MD (JBA). Pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 *United States Code* [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*., JBA will prepare an EA that considers the potential consequences to human health and the natural environment. The EA will examine the effects of the proposed projects and will include analysis of the required no-action alternative.

2. In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, we invite your agency to comment on the Proposed Action described in the enclosed attachment and provide any relevant information about resources under your jurisdiction that may be present in the project area as indicated on the new site plan in the attachments.

3. Also enclosed is a copy of the distribution list for those federal, state, and local agencies to be contacted regarding this EA. If you consider any additional agencies should review and comment on this proposal, please feel free to include them in a re-distribution of this letter and the attached materials.

4. An attachment to this letter describes the projects being analyzed in the EA. If undertaken, each project will be completed in accordance with applicable federal, state, and local laws and regulations and federal Executive Orders.

5. Your assistance in providing information is greatly appreciated. Please provide written comments within 15 days from the date of this letter to Anne Hodges, 11 CES/CEAO, 3466 North Carolina Avenue, Joint Base Andrews, MD 20762 or send via e-mail to anne.hodges@afncr.af.mil. If you need further information, please contact Ms. Hodges at 301-981-1426.

STEVE RICHARDS
Chief of Environmental Management

Attachments:

Vicinity Map and Site Plans
Distribution List (listed on next page)

Distribution List

Mrs. Linda C. Janey, JD
Director, Maryland State Clearinghouse
Maryland Office of Planning, Room 1104
301 West Preston St.
Baltimore, MD 21201-2365
ljaney@mdp.state.md.us

Ms. Genevieve Larouche
US Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Dr.
Annapolis, MD 21401
genevieve_larouche@fws.gov

Ms. Fern Piret
Planning Director
Maryland-National Capital Park and Planning Commission
Prince George's County Planning Department
14741 Governor Oden Bowie Dr., Room 4150
Upper Marlboro, MD 20772
fern.piret@ppd.mncppc.org

Ms. Barbara Rudnick, NEPA Team Leader
Office of Environmental Programs (3EA30)
US Environmental Protection Agency, Region III
1650 Arch St.
Philadelphia, PA 19103-2029
rudnick.barbara@epa.gov

Ms. Christine Saum, Director
National Capital Planning Commission
401 9th Street, NW
North Lobby, Suite 500
Washington, DC 20004
christine.saum@ncpc.gov

Actions Proposed in the EA and Alternatives

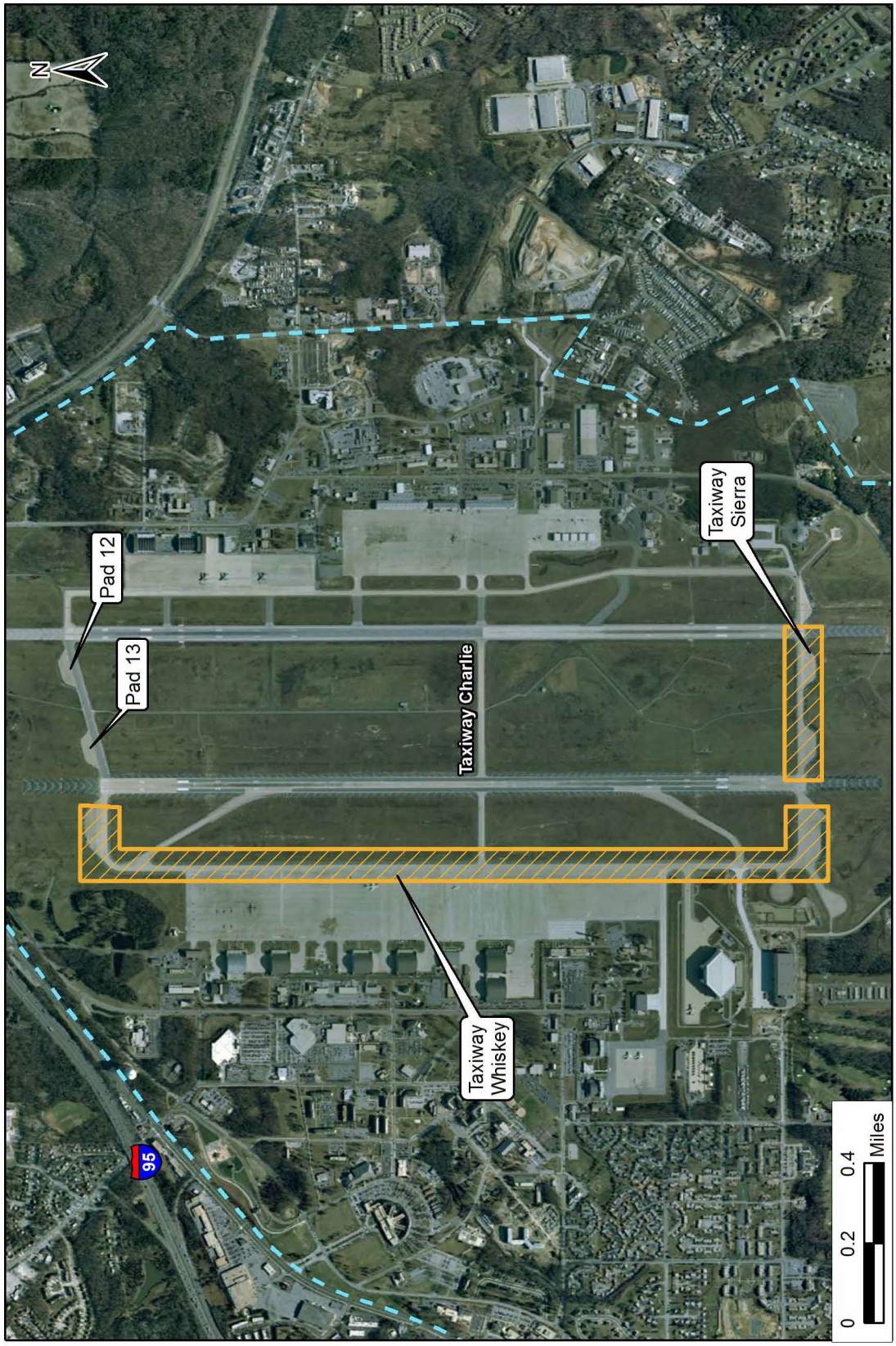
JBA needs to replace Taxiways Sierra and Whiskey and Pads 12 and 13 on its airfield (Figure 1). The taxiways do not conform to USAF and federal airfield design criteria, are in a deteriorated condition that affects safety, and do not have airfield navigation systems that conform to USAF standards. Additionally, existing taxiways and interconnecting airfield pavements are inadequate to accommodate today's large, modern aircraft. Pads 12 and 13 would be replaced to support mission aircraft.

Under the proposed action, Taxiways Sierra and Whiskey would be replaced with new taxiways with widths slightly larger than the existing taxiways (82-foot widths versus the 75-foot widths). Approximately 12,600 SF (0.29 acre) of new pavement would be added to Taxiway Sierra, and approximately 74,900 SF (1.72 acres) of new pavement would be added to Taxiway Whiskey. The existing 50-foot-wide shoulders would be removed and replaced with new 50-foot-wide shoulders that consist of 35 feet of pavement and 15 feet of earthen shoulders.[1] Replacing the existing 75-foot-wide taxiways with new taxiways with widths of 82 feet and new shoulders would permit JBA to accommodate large modern aircraft, such as the Airbus A380 and the Boeing 747-8I, which are larger than the airfield infrastructure was designed for and larger than the existing taxiways can accommodate. Increasing the width during this project is considered to be an economical option because both taxiways will eventually have to be widened to accommodate the larger modern aircraft.

Taxiway replacement would involve demolition and replacement of existing pavements and shoulders on Taxiways Sierra and Whiskey. Work on both taxiways would include excavation and grading; installing drainage structures (underdrain and drainage layer system) as needed to correct drainage problems; installing new signage and lighting systems; pavement striping; and restoring disturbed areas. A site of at least 5 acres would be used for a concrete batch plant during taxiway replacement. Additional area would be used to stockpile crushed pavement. DoD AT/FP requirements would be met per Unified Facilities Criteria (UFC), and all operational requirements would be satisfied. Brief details of what would be involved in replacing the taxiways are provided below.

- Contractor access: Contractors for all projects would use the Pearl Harbor Gate on the east boundary of the base for access to JBA.
- Construction staging:
  Sierra: The construction staging area for Taxiway Sierra would be Staging Area 6 (9.9 acres) (the former Munitions Storage Facility) west of Taxiway Sierra (Figure 2). The site provides sufficient space for contractor staging, material storage, a concrete batch plant, and concrete crushing operations.
  Whiskey: The construction staging area for Taxiway Whiskey would also be Staging Area 6 (Figure 3). Staging Area 2 (1.2 acres) and Staging Area 3 (1.7 acres) could also be made available for contractor use if necessary. Construction staging for replacing Pads 12 and 13 has not been determined but would likely be similar to that for work on the north end of Taxiway Whiskey.
- Haul route:
  Sierra: An approximate 1.5-mile haul route along Wisconsin Avenue, South Perimeter Road, and Watertown Road would be used to access the work site for Taxiway Sierra.
  Whiskey: During construction on Taxiway Whiskey north of Taxiway Charlie, a haul route of approximately 2.5 miles would be used from the Staging Area to the work site along North Perimeter Road. During construction on Taxiway Whiskey south of Taxiway Charlie, a haul route

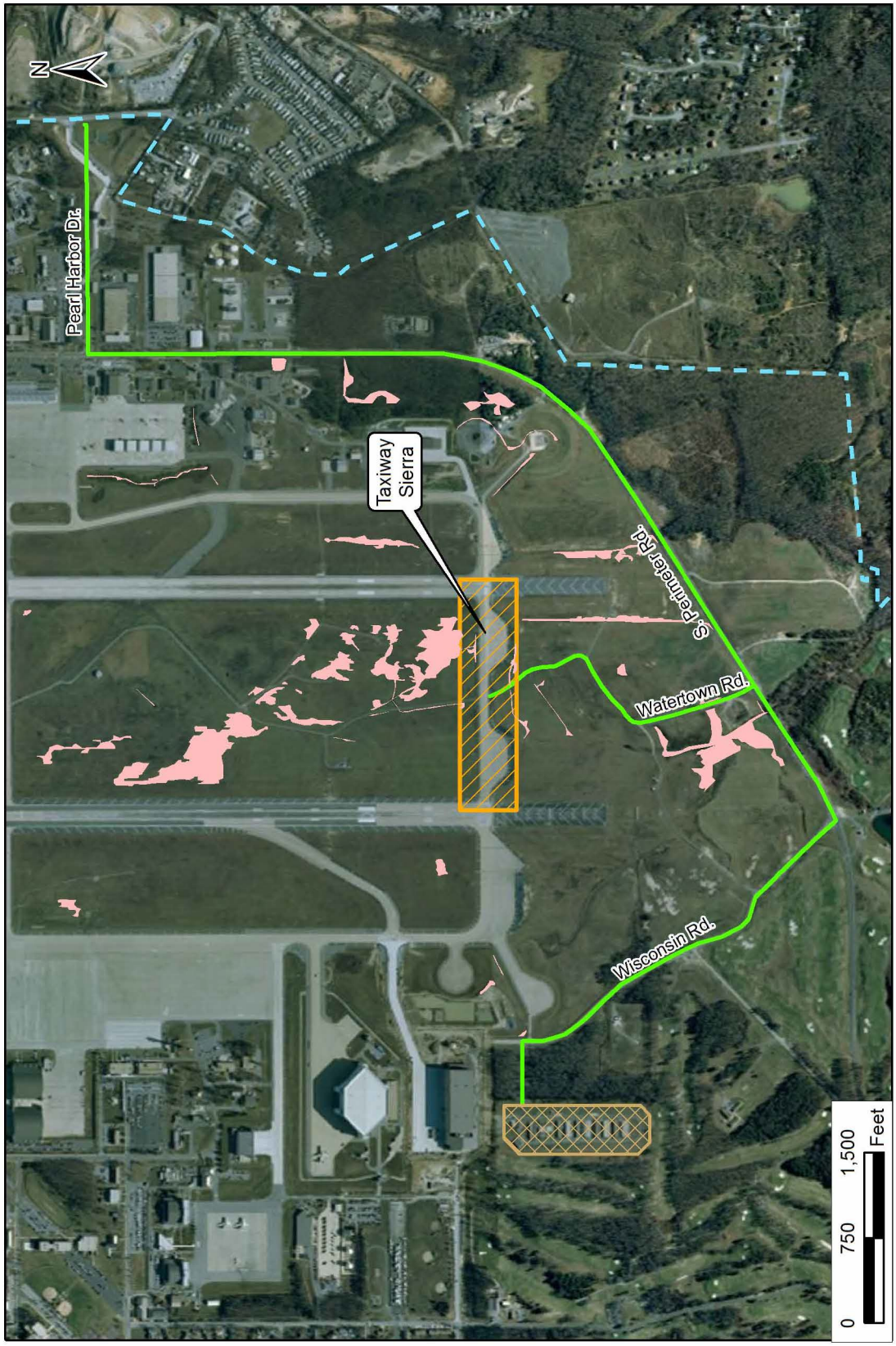
[1] Taxiway Whiskey will be shifted 23.5 feet to the east to maintain the parking configuration on the West Apron. The existing 50-foot shoulder on the east side of the taxiway will be used to accommodate this shift, with the remaining 26.5 feet used for the new 35-foot-wide asphalt shoulders. Therefore, 8.5 feet of the asphalt shoulder on the east side will be new pavement.



Locations of Airfield Infrastructure to Be Replaced

Figure 1

Source: JBA GIS 2012.



Taxiway Sierra Detail with Haul Routes and Staging Area

Figure 2

LEGEND
- JBA Boundary
- Taxiway Whiskey
- Haul Route
- Staging Area
- Delineated Wetlands

SA: Staging Area

Taxiway Whiskey Detail with Haul Routes and Staging Areas

Figure 3

Source: JBA GIS 2012.

of approximately 3.8 miles would be used from the Staging Area to the work site along the South Perimeter Road. Access to the work site would be across the northern edge of the West Apron, along a haul route east of Taxiway Whiskey, and across the Hot Cargo Pad off Taxiway Whiskey South.

- Taxiway width: Both taxiways would be widened from 75 to 82 feet, and the shoulders would be widened. Shoulder pavement on Taxiway Sierra would be widened from 25 to 35 feet wide. Existing 50-foot-wide shoulders on Taxiway Whiskey would be replaced with 35 feet of paved shoulders and 15 feet of earthen shoulders, for a total width of 50 feet. This would be done to accommodate larger aircraft (e.g., Boeing 747-8I and Airbus A-380).
- Runway fillets: The fillets connecting runways and taxiways to Taxiways Sierra and Whiskey would be reconstructed because of the increased pavement width.
- Construction detail: The taxiway would be constructed of Portland cement concrete, a drainage layer, a rigid pavement base, and a compacted subgrade. The shoulders would consist of asphalt, aggregate, a drainage layer, and a compacted subgrade.
- Taxiway lighting: The taxiway edge lights would be installed 5 feet from the edge of the 82-foot-wide taxiway pavement.
  Sierra: New taxiway edge lights, taxiway centerline lights, instrument landing system (ILS) hold location lighting for the West Runway, and runway guard bar lights for the West Runway would be installed. Taxiway centerline lights, runway guard bar lights, runway ILS hold location lights, and runway edge lights that were recently installed as part of the West Runway rehabilitation would be removed and reinstalled.
  Whiskey: New taxiway edge lights and taxiway centerline lights would be installed, and ILS hold location lighting for lights affected by the West Runway project would be reinstalled.
- Storm drainage: Storm drain lines within the project limits would be replaced to avoid future replacement in the newly constructed taxiway areas. The storm drainage system in the airfield has been analyzed, and the replacement lines would be designed to reduce flooding and meet the UFC.
- Stormwater runoff: Vegetated dry swales would be installed to meet water quality requirements. In accordance with UFC 3-230-01, *Surface Drainage Design*, airfield storm drainage systems must accommodate the stormwater runoff associated with the 2-year rainfall with no encroachment of runoff on runways or taxiways. Additionally, the center 50 percent of runways and taxiways must be free from ponding associated with runoff from the 10-year rainfall event. The Maryland Department of the Environment (MDE) requires that each swale be capable of treating the required water quality volume while safely conveying the 10-year storm event and incorporating 6 inches of freeboard above the 10-year storm water surface elevation. An MDE-approved Stormwater Management Plan and Soil Erosion and Sediment Control Plan and permit would be obtained before any work begins.
- Wetlands: On the basis of the 2012 delineation of wetlands, 0.22 acre (approximately 9,650 SF) of wetlands is within the Taxiway Sierra project boundary and 0.03 acre (approximately 1,331 SF) of wetlands is within the Taxiway Whiskey project boundary. JBA would obtain a Nontidal Wetland Permit from MDE and a section 404 Wetland Permit from the U.S. Army Corps of Engineers (USACE) for any loss of wetlands, and would mitigate the loss in accordance with the permits.
- Solid waste: Solid waste will be managed in accordance with all applicable federal, state, and local regulations and waste from removal of the existing taxiways and pads will be recycled and reused to the extent practicable.

- Soil contamination-lead: Some .50 caliber bullets could be in the soil underneath the pavement near the western intersection of Taxiway Sierra and the West Runway where, in the 1940s, there was a firing-in buttress. (The site is a JBA Environmental Restoration Program [ERP] site, FI-346.) The berm was bulldozed during airfield construction and is now spread out under the airfield pavement. The West Runway project contractor found elevated lead levels (but less than the 400 parts per million action level) in the region. Soil removed from the area would be tested to determine whether the lead level is below the U.S. Environmental Protection Agency's (EPA's) action level. The action level for lead in soil is 400 parts per million, but it might change in the next couple years to 40 parts per million. If the action level changes and the contamination level in the soil then exceeds the action level, the soil would be removed and disposed of in accordance with applicable laws and regulations and replaced with clean fill.
- Soil contamination-TCE: An environmentally sensitive area (trichloroethylene [TCE] in groundwater) is adjacent to the limits of work area for the project at the southern end of Taxiway Whiskey. Taxiway Sierra is outside the affected area, and it is not anticipated that TCE would be encountered during the taxiway replacement. As a precaution, cuttings from taxiway borings would be stock piled and tested. The contractor would screen, test, and dispose of contaminated soils in accordance with applicable regulations. Suspected contaminated materials would be stored in drums until testing can be performed.
- Construction duration:
  Sierra: Taxiway Sierra's replacement would take approximately 7 months (215 calendar days). The project would be completed in five phases, each affecting a separate portion of the taxiway.
  Whiskey: Work on Taxiway Whiskey would begin after Taxiway Sierra's replacement is complete and would take approximately 24 months (720 calendar days). The project would be completed in six phases, each having one to four subphases, and each affecting a separate portion of the taxiway.

All taxiway construction would be phased and managed such that airfield operations would be interrupted as little as feasible. Access to essential airfield areas, such as some hangars, would be permanently available. Contractors would depart the airfield as necessary before and during distinguished visitor movements. Some temporary closures (of approximately 10 days) of the west runway and short-duration encroachment on runway missions could occur.

Work on Pads 12 and 13 would include replacing the Portland cement concrete pavement, asphalt shoulders, under-drains, and edge lights on each pad (see Figure 1). The pavement on both pads is 10 inches thick. Pads 12 and 13 have areas of approximately 7,341 square yards (1.5 acres) and 7,279 square yards (1.5 acres), respectively. The pavement and an additional 10 inches of base and subbase on each pad would be removed and replaced.

Erosion and sediment control best management practices (BMPs) would be used during demolition and disturbed areas within the project areas would be re-seeded and stabilized upon project completion to prevent excessive erosion, reduce runoff velocity, and to control the proliferation of noxious weeds. The taxiways would be designed in accordance with Air Force requirements for airfield pavement and lighting and MDE construction stormwater management requirements.

Neither the taxiway replacement projects nor the pad replacement project would have any adverse effect on floodplains, waters of the United States, threatened or endangered species, or cultural resources. No wetlands would be affected by replacing Pads 12 and 13, but as noted above, small areas of wetlands would be affected by replacing Taxiways Sierra and Whiskey, and JBA would comply with MDE and USACE permitting requirements for wetland impacts.

Alternatives

The USAF performed an analysis of reasonable options for accomplishing the project. Alternatives considered included replacing the concrete (in the same location), constructing new taxiways (in a new location), and discontinuing use of the taxiways. The analysis indicated that replacing the concrete is the only viable option that would meet JBA operational requirements. The age of the taxiways and pads and their poor condition, which is partially from their having received numerous spot repairs over their more than 50-year lifespans, makes further repair a nonviable option because it would not meet JBA's operational requirements, would be insufficient for JBA to meet its mission, and would not support today's larger aircraft. Discontinuing use of the taxiways and pads would prevent JBA from accomplishing its mission. For these reasons, alternatives other than replacement are not evaluated in the EA.

The taxiway projects and pad replacement project are independent of each other, and each could proceed irrespective of whether the other is undertaken.

No Action Alternative

Under the No Action Alternative, Taxiways Sierra and Whiskey and Pads 12 and 13 would not be replaced. The continued lack of serviceable airfield pavements could jeopardize the ability of the base to provide necessary and appropriate airfield service to the DoD and federal aircraft that use JBA. Sustained aircraft operations on the inadequate and deteriorated pavements would result in continually increasing maintenance costs, frequency of repairs, and potential loss of aircraft, equipment, and personnel. The pavements would continue to deteriorate at an accelerated rate, resulting in increased mission impacts and greatly increasing the probability of serious damage to aircraft using and transiting these airfield areas. Because of the National Capitol Region alert mission, Pads 12 and 13 are critical to support missions, and not replacing them could result in delayed response times for fighter aircraft if they encounter foreign object debris while transiting the pads.

If Taxiways Sierra and Whiskey are not enlarged, the size of aircraft that JBA could accommodate would be limited and they would not meet the needs of the mission (i.e., larger aircraft would still need to be routed to alternate airfields). If the taxiways are not widened during this replacement project, the federal government would incur significant additional cost later because they would eventually need to be replaced to accommodate large, modern aircraft.

November 30, 2012

Ms. Anne Hodges
Environmental Planner, 11 CES/CEAO
Department of the Air Force
3466 North Carolina Avenue
Joint Base Andrews, MD 20762

STATE CLEARINGHOUSE REVIEW PROCESS

State Application Identifier: **MD20121120-0815**
Reviewer Comments Due By: December 17, 2012
Project Description: Scoping prior to Environmental Assessment: Taxiway and Pad Replacement at Joint Base Andrews-Naval Air Facility
Project Location: Prince George's County
Clearinghouse Contact: Bob Rosenbush

Dear Ms. Hodges:

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 the Environment, Business and Economic Development, Housing and Community Development, Natural Resources, Transportation; 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 **December 17, 2012** with any comments or concerns and to provide a copy of those comments to the State Clearinghouse for Intergovernmental Assistance. The Applicant is requested to complete the enclosed form and return it to the State Clearinghouse upon receipt of notification that the project has been approved or disapproved. Please be assured that after **December 17, 2012** all MIRC requirements will have been met in accordance with Code of Maryland Regulations (COMAR 34.02.01.04-.06). The project has been assigned a unique State Application Identifier that should be used on all documents and correspondence. If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at brosenbush@mdp.state.md.us. Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey

Linda C. Janey, J.D., Assistant Secretary

P.S. ***Great News!!*** *Your project may be eligible to be "FastTracked" through the State permitting processes. For more information, go to: http://easy.maryland.gov/wordpress/fasttrack/ .*

LCJ:BR
Enclosure
cc: *12-0815_NDC.NEW.doc*

Tammy Edwards – DBED	Hara Wright-Smith – DHCD	Beth Cole - MHT	Jay Mangalvedhe-MNCPPCP
Amanda Degen - MDE	Melinda Gretsinger - MDOT	Beverly Warfield - PGEO	
Greg Golden - DNR	Lawrence Leone - MILT	Mike Paone - MDPL	

PROJECT STATUS FORM

Please complete this form and return it to the State Clearinghouse upon receipt of notification that the project has been approved or not approved by the approving authority.

TO: **Maryland State Clearinghouse**
Maryland Department of Planning
301 West Preston Street
Room 1104
Baltimore, MD 21201-2305

DATE: _____
(Please fill in the date form completed)

FROM: _____
(Name of person completing this form.)

PHONE: ____-____-_____
(Area Code & Phone number)

RE: **State Application Identifier:** **MD20121120-0815**
Project Description: Scoping prior to Environmental Assessment: Taxiway and Pad Replacement at Joint Base Andrews-Naval Air Facility

PROJECT APPROVAL			
This project/plan was:	☐ **Approved**	☐ **Approved with Modification**	☐ **Disapproved**
Name of Approving Authority:		**Date Approved:**	

FUNDING APPROVAL			
The funding (if applicable) has been approved for the period of:			
_____, 201____ to _____, 201____ as follows:			
Federal $: _____	**Local $:** _____	**State $:** _____	**Other $:** _____

OTHER
☐ **Further comment or explanation is attached**

December 18, 2012

Ms. Anne Hodges
Environmental Planner, 11 CES/CEAO
Department of the Air Force
3466 North Carolina Avenue
Joint Base Andrews, MD 20762

STATE CLEARINGHOUSE REVIEW – ADDITIONAL REVIEWER COMMENTS RECEIVED

State Application Identifier: **MD20121120-0815**
Project Description: Scoping prior to Environmental Assessment: Taxiway and Pad Replacement at Joint Base Andrews (JBA) - Naval Air Facility
Project Location: Prince George's County
Clearinghouse Contact: Bob Rosenbush

Dear Ms. Hodges:

We are forwarding the comments made by the Maryland Departments of Transportation; and Planning, including the Maryland Historical Trust; Prince George's County; and the Maryland-National Park and Planning Commission in Prince George's County regarding the referenced project for your information.

The Maryland Departments of Transportation stated that as far as can be determined at this time, the subject has no unacceptable impacts on the plans or programs of the Department of Transportation.

Prince George's County commented that the project site is located in the headwaters of Piscataway Creek (02140203084). The sub-watersheds in and around Joint Base Andrews are categorized as non-supporting based on impervious cover. This categorization has a significant impact on downstream water and stream quality. A State-designated Stronghold Watershed is located downstream of the project site is. Stronghold Watersheds (12-digit watershed) are those watersheds in the State that are most important for the protection of Maryland's aquatic biodiversity as determined by the Maryland Department of Natural Resources. In addition, the State has identified and designated a portion of the Piscataway Creek downstream of the base as Tier II water High Quality Waters. It is expected that the implementation of environmentally sensitive site design, and low-impact development practices will mitigate much of the adverse hydrological and pollutant loading impacts from the new development. It is hoped that if opportunities arise that allow added environmental improvements, the Applicant will consider including them in this project. Often, steps can be taken to enhance re biological integrity with only an incremental adjustment to the project design.

The Maryland-National Park and Planning Commission in Prince George's County (M-NCPPC) stated that the proposed improvements are within an existing developed area. The proposed action would result in the impacts to 0.25 acres of wetlands for the replacement of the taxiways. The acreage of wetland buffer that would be impacted was not quantified in the review document. Any impacts to wetlands and associated buffers on this site will be the jurisdiction of the U. S. Army Corps of Engineers, and the Maryland Department of Environment. No other adverse impacts on natural resources are anticipated. The proposed project does not include any impacts to any cultural or historic resources within Prince George's County. JBA includes two properties designated as Prince George's County Historic sites: 77-001-Forest Grove Methodist Church and Cemetery (Chapel 2), and 77-014-Belle Chance and Cemetery. Neither of these properties will be affected by the proposed action and site plan. Based on the information provided, the scope of each of these changes is very limited, and for the most part they appear to be a maintenance function for JBA. Concrete batching, along with disposal and recycling of used pavement, will occur within the limits of the base. Contractors will use the Pearl Harbor Gate along Dower House Road. Given the great volume of pavement being placed through this project, the Transportation Division has a concern about the hauling of resources along Dower House Road. It would be very helpful to know the number of truckloads of sand and gravel that will be used for the making of concrete over the seven-month construction duration. This type of information would be useful in estimating the impacts that this traffic could have at each end of Dower House Road. While the proposed changes will not have an adverse long-term impact on the adjacent transportation network, some attention must be given to the impacts during the duration of construction. In addition, the M-NCPPC agrees with the conclusion in the review document that a short-term, minor, beneficial, and economical effect on the regional economy would be expected from implementing the proposed action.

The Maryland Historical Trust determined that the project will have "no effect" on historic properties.

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

LCJ:BR

cc: Melinda Gretsinger – MDOT
Beverly Warfield – PGEO
Jay Mangalvedhe – M-NCPPCP
Beth Cole – MHT
Greg Golden - DNR

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MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, Maryland 21230
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D
Secretary

December 17, 2012

Ms. Anne Hodges
Environmental Planner, 11 CES/CEAO
Department of the Air Force
3466 North Carolina Avenue
Joint Base Andrews, MD 20762

RE: State Application Identifier: MD20121120-0815
Project: Scoping prior to Environmental Assessment: Taxiway and Pad Replacement at Joint Base Andrews-Naval Air Facility

Dear Ms. Hodges:

Thank you for the opportunity to review the above referenced project. The document was circulated throughout the Maryland Department of the Environment (MDE) for review. MDE's review findings are contingent upon certain actions as outlined below and in the enclosure.

1. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Waste Diversion and Utilization Program at (410) 537-3314 for additional information regarding recycling activities.

2. Please see the enclosure for additional comments provided by the Science Services Administration.

Again, thank you for giving MDE the opportunity to review this project. If you have any questions or need additional information, please feel free to call me at (410) 537-4120.

Sincerely,

Amanda R. Degen
MDE Clearinghouse Coordinator
Office of Communications

Enclosure
cc: Bob Rosenbush, State Clearinghouse

recd 12/31/12

Scoping: Taxiway and Pad Replacement Joint Base Andrews

Maryland Department of the Environment - Science Services Administration

REVIEW FINDING: R2 Contingent Upon Certain Actions (MD2012 1120-0815)

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

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

Planners should be aware of existing water quality impairments identified on Maryland's 303(d) list. The Project is situated in the Piscataway Creek watershed, identified by the MD 8-digit codes, 02140203, which is currently impaired by several substances and subject to regulations regarding the Clean Water Act.

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

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

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.**

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.

Piscataway Creek 1, which is located within the scope of the Project, has been designated as a Tier II stream. The location of the project is within the catchment of the High Quality Water (Tier II segment). (See Additional Comments and attached map)

For more information regarding any disturbances (i.e. Construction) within a Tier II Catchment contact Angel Valdez at 410-537-3606.

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

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

ADDITIONAL COMMENTS

Antidegradation

Table 1: General Comments regarding Current Antidegradation Implementation Procedures.

For all land disturbing 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/Water/StormwaterManagementProgram/Pages/Programs/WaterPrograms/SedimentandStormwater/swm2007.aspx). 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).
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Appendix 1

Antidegradation 1 Ltr

MARYLAND DEPARTMENT OF THE ENVIRONMENT
MDE 1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Shari T. Wilson
Secretary

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:

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Sincerely,

Virginia F. Kearney for

Jay G. Sakai, Director
Water Management Administration

Enclosures

Appendix 2

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

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Chesapeake Bay TMDL

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

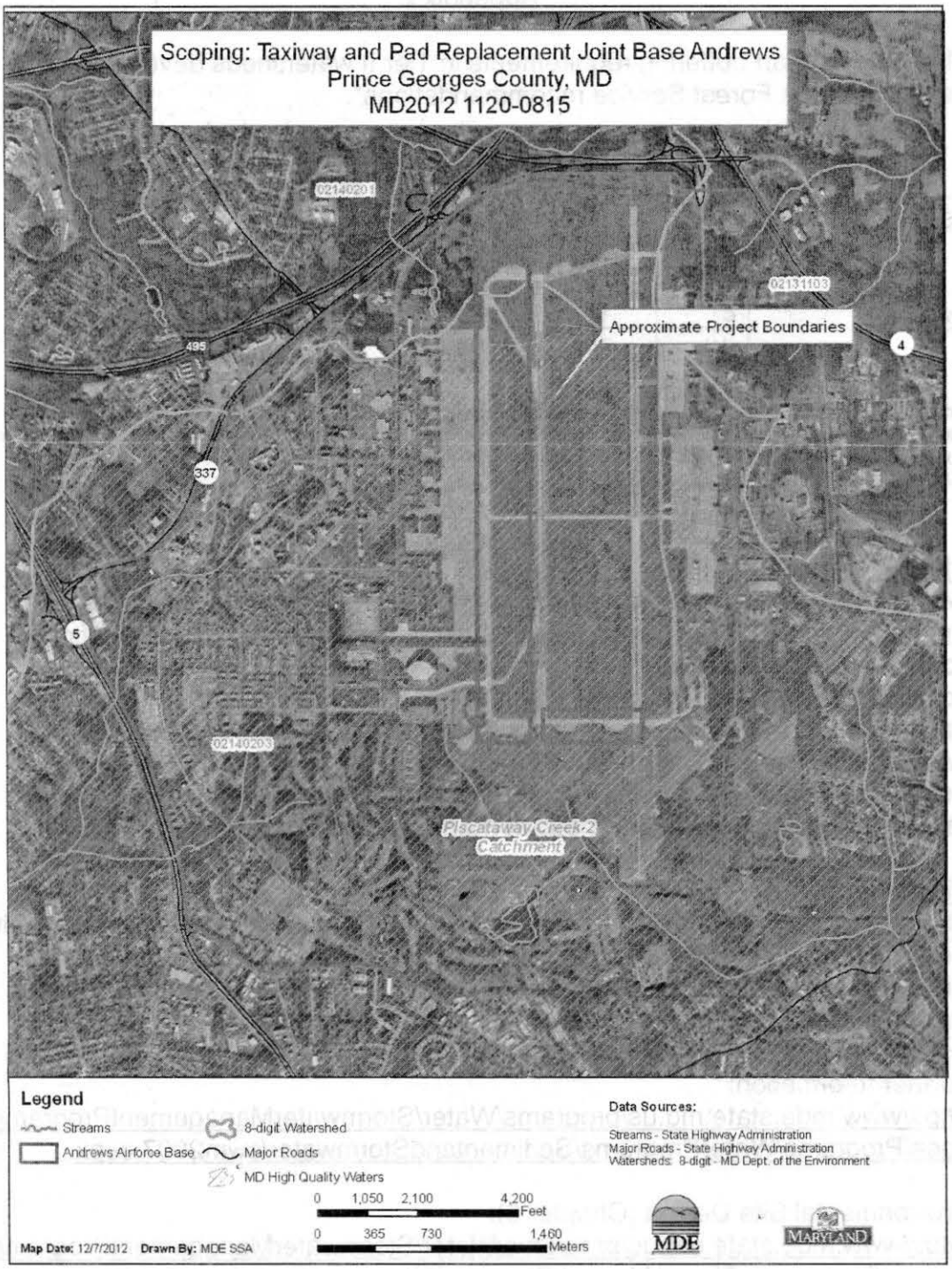
Stormwater

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

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

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

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


Scoping: Taxiway and Pad Replacement Joint Base Andrews
Prince Georges County, MD
MD2012 1120-0815
02140201
02131103
Approximate Project Boundaries
495
4
337
5
02140203
Piscataway Creek-2
Catchment
Legend
Streams
Andrews Airforce Base
8-digit Watershed
Major Roads
MD High Quality Waters
0 1,050 2,100 4,200 Feet
0 365 730 1,460 Meters
Map Date: 12/7/2012 Drawn By: MDE SSA
Data Sources:
Streams - State Highway Administration
Major Roads - State Highway Administration
Watersheds: 8-digit - MD Dept. of the Environment
MDE
MARYLAND

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

NOV 2 9 2012

Anne Hodges
11 CES/CEAO
3466 North Carolina Avenue
Joint Base Andrews, Maryland 20762

RE: Description of Proposed Action and Site Map for Taxiway and Pad Replacement at Joint Base Andrews-Naval Air Facility, Washington, Maryland

Dear Ms. Hodges:

The U.S. Environmental Protection Agency (EPA) has received and reviewed your November 16, 2012 letter regarding the Environmental Assessment (EA) being prepared for replacement of two taxiways and two pads on the airfield of Joint Base Andrews-Naval Air Facility, Washington, Maryland. EPA has reviewed your letter and associated materials in conjunction with our responsibilities under the National Environmental Policy Act (NEPA), the Clean Water Act (CWA) and Section 309 of the Clean Air Act. As limited information is provided in your letter, we are able to provide only some general recommendations at this time.

Information regarding the purpose and need, alternatives analyzed, avoidance and minimization of resources, and cumulative effects for the proposed project should be included in the environmental document. The November 16, 2012 letter described in detail the proposed action and briefly explains the need for the proposed action. The EA should include a clear and robust justification of the underlying purpose and need for the proposed action. The purpose and need statement is important because it helps explain why the proposed action is being undertaken and what objectives the project intends to achieve. The purpose of the proposed action is typically the specific objective of the activity. The need should explain the underlying problem for why the project is necessary. Please clarify if widening the taxiways is proposed for safety purposes or only to accommodate larger aircraft at the Base, as well as if other airfield infrastructure will need to be upgraded to accommodate larger aircraft. Alternatives analysis should include the suite of other activities or solutions that were considered and the rationale for not carrying these alternatives forward for detailed study. At this time during the scoping process the proposed action already has a great deal of detail. EPA suggests the EA address other alternatives that may meet the project purpose and need including, possible alternate taxiway alignments, shifts, dimensions, and configurations. The project purpose and need should not be too narrow to limit a reasonable range of alternatives. The EA should also include in greater detail what alternatives were considered and dismissed from detailed analysis.

The document should describe potential impacts to the natural and human environment. Existing resources should be identified and EPA encourages that adverse impacts to natural resources, especially wetlands and other aquatic resources, be avoided and minimized wherever possible. Attachment 1 of the letter describes potential wetland impacts. Please include permanent, temporary and impacts associated with conversion of wetland types in the EA. The EA should describe the total size or length of wetland or stream, and impact amount by each proposed alternative. Stormwater ponds, best management practices (BMPs) and staging areas should not be located in wetlands and streams. EPA suggests coordinating with other appropriate federal, state and local resource agencies on possible impacts to wetlands, streams, historic and/or rare, threatened and endangered species.

An evaluation of air quality and community impacts, including noise, light and possible traffic impacts, should be included in the document. The proposed project area is located in air non-attainment areas for ozone and PM-2.5. Potential air impacts and general conformity should be included in the EA. The EA should also include an analysis of any hazardous sites or materials, and the status of any ongoing or past remediation efforts in the project area. Attachment 1 noted that there are possible munitions in the project area. Include any unexploded ordinances (UXO) plan that may be needed in order to address munitions. Environmental justice (EJ) should also be evaluated, including the identification of potential communities of concern, and meaningful and timely community involvement, public outreach, and access to information. Consideration should also be given to all potential impacts to at-risk populations, as well as consideration to sensitive subpopulations, possibly including elderly, children and others. Community impacts should also be avoided, minimized and mitigated.

EPA strongly encourages a thorough cumulative impact analysis for past, present and reasonably foreseeable projects occurring in the project areas. The document should address potential indirect and cumulative effects in the project areas. The document should also discuss if there are any possible future plans that the taxiways will be expanded again by another project.

Thank you for coordinating with EPA on this project. We look forward to working with you on this project as more information becomes available. If you have any questions and would like to discuss our comments, the staff contact for this project is Ms. Alaina McCurdy; she can be reached at 215-814-2741.

Sincerely,

Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

Good morning Anne,

We processed **MD20130313-0137 - Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI): Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12 and Pad 13, at Joint Base Andrews-Naval Air Facility (See MD20121120-0815** as a Direct Comment. With Direct Comment projects we ask the reviewing agencies to respond directly to the applicant. Therefore, we do not issue a formal Review and Recommendation letter with these projects.

In regard to comments received:

Reviewers	Response Codes	Comments
Maryland Department of the Environment	R4	Direct Comment Sent Separately
Department of Natural Resources	R1	Direct Comment/Comments sent separately
Maryland Department of Transportation	R1	As far as can be determined at this time, the subject has no unacceptable impacts on the plans or programs of the Department of Transportation.
Prince George's County	C5	Although the Maryland Department of the Environment and the U.S. Army Corps of Engineers are the regulatory agencies responsible for reviewing for the environmental impacts, the County hopes that if opportunities arise that allow added environmental improvements you will consider including them in this project. Often, steps can be taken to enhance the biological integrity with only an incremental adjustment to the project design. This is very

		important since the proposed project is located in the headwaters of Piscataway Creek and Tinkers Creek. Headwater streams play a critical role in the water quality and hydrology of the downstream receiving waters. The proposed development is located upstream of both stronghold watersheds and Tier II waters in Piscataway Creek watershed (021402030803) and Tinkers Creek watershed (021402030802). Stronghold watersheds are those watersheds in the State that are most important to protection of Maryland's biodiversity as determined by DNR. Maryland's high quality or Tier II waters are identified based on Maryland Biological Stream Survey (MBSS) data gathered by the Maryland Department of Natural Resources (DNR).
Department of Planning	C1, C2, C7	
Maryland Historical Trust	C3	No effect on historic properties
MNCPPCP		EPS has no comments at this time. Comments will be provided at the time of Mandatory Referral Review.

Please be assured that all MIRC requirements were met in accordance with Code of Maryland Regulations (COMAR 34.02.01.04-.06).
Thanks Sophia

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Martin O'Malley
Governor

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Robert M. Summers, Ph.D
Secretary

April 12, 2013

Ms. Anne Hodges
Environmental Planner
Department of the Air Force
11 CES/CEAO
3466 North Carolina Avenue
Joint Andrews Base, MD 20762-4803

RE: State Application Identifier: MD20130313-0137
Project: Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI): Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12 and Pad 13, at Joint Base Andrews-Naval Air Facility
(See MD20121120-0815)

Dear Ms. Hodges:

Thank you for the opportunity to review the above referenced project. The document was circulated throughout the Maryland Department of the Environment (MDE) for review, and the following comments are offered for your consideration.

1. Construction, renovation and/or demolition of buildings and roadways must be performed in conformance with State regulations pertaining to "Particulate Matter from Materials Handling and Construction" (COMAR 26.11.06.03D), requiring that during any construction and/or demolition work, reasonable precaution must be taken to prevent particulate matter, such as fugitive dust, from becoming airborne.

2. If soil contamination is present, a permit for soil remediation is required from MDE's Air and Radiation Management Administration. Please contact the New Source Permits Division, Air and Radiation Management Administration at (410) 537-3230 to learn about the State's requirements for these permits.

3. If any project can be considered regionally significant, such as a shopping mall, a sports arena, industrial complex, or an office complex, the project may need to be identified to the regional Metropolitan Planning Organization (MPO). Project managers who need a permit to connect their projects to a State or federal highway should contact the Planning Division of the Planning and Monitoring Program, Air and Radiation Management Administration, at (410) 537-3240 for further guidance.

4. If a project receives federal funding, approvals and/or permits, and will be located in a nonattainment area or maintenance area for ozone or carbon monoxide, the applicant should determine whether emissions from the project will exceed the thresholds identified in the federal rule on general conformity. If the project emissions will be greater than 25 tons per year, contact Brian Hug, Air and Radiation Management Administration, at (410) 537-4125 for further information regarding threshold limits.

5. Fossil fuel fired power plants emit large quantities of sulfur oxide and nitrogen oxides, which cause acid rain. In addition, nitrogen oxide emissions contribute to the problem of global warming and also combine with volatile organic compounds to form smog. The MDE supports energy conservation, which reduces the demand for electricity and therefore, reduces overall emissions of harmful air pollutants. For these reasons, MDE recommends that the builders use energy efficient lighting, computers, insulation and any other energy efficient equipment. Contact the U.S. EPA at (202) 233-9120 to learn

more about the voluntary Green Lights Program which encourages businesses to install energy-efficient lighting systems.

6. The applicant should be advised that no cutback asphalt should be used during the months of June, July and August.

7. Development should be concentrated in suitable areas such as existing or planned population centers as identified in a county's comprehensive plan.

8. Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.

9. Additional information from the Science Service Administration is enclosed.

Again, thank you for giving MDE the opportunity to review this project. If you have any questions or need additional information, please feel free to call me at (410) 537-4120.

Sincerely,

Amanda R. Degen

Amanda R. Degen
MDE Clearinghouse Coordinator
Office of Communications

Enclosure
cc: Sophia Richardson, State Clearinghouse

EA: Taxiway and Pad Replacement Joint Base Andrews

Maryland Department of the Environment - Science Services Administration

REVIEW FINDING: R1 Consistent with Qualifying Comments (MD2013 0313-0137)

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 Projects are situated in several watersheds identified by the MD 8-digit codes: (Piscataway Creek, 02140203; Potomac River U tidal, 02140201), 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 Project include the following:**

Potomac River U tidal (02140201)

Nutrients:	**Tidal. A TMDL has been written and approved by EPA. (Bay TMDL)**
Toxics:	**Tidal. A TMDL for PCBs has been written and approved by EPA.**
Sediments:	**Tidal. A TMDL has been written and approved by EPA. (Bay TMDL)**
Biological:	**Tidal and Non-tidal. A TMDL is pending development.**

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.**

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.

Piscataway Creek 1, which is located within the scope of the Project, has been designated as a Tier II stream. The location of the project is within the catchment of the High Quality Water (Tier II segment). (See Additional Comments and attached map)

For more information regarding any disturbances (i.e. Construction) within a Tier II Catchment contact Angel Valdez at 410-537-3606.

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Deputy Secretary

JUN - 8 2009

The Honorable Julia W. Gouge, President
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Carroll County, Maryland
County Office Building
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Sincerely,

Virginia F. Kearney /sfa

Jay G. Sakai, Director
Water Management Administration

Enclosures

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

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*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

Chesapeake Bay TMDL

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

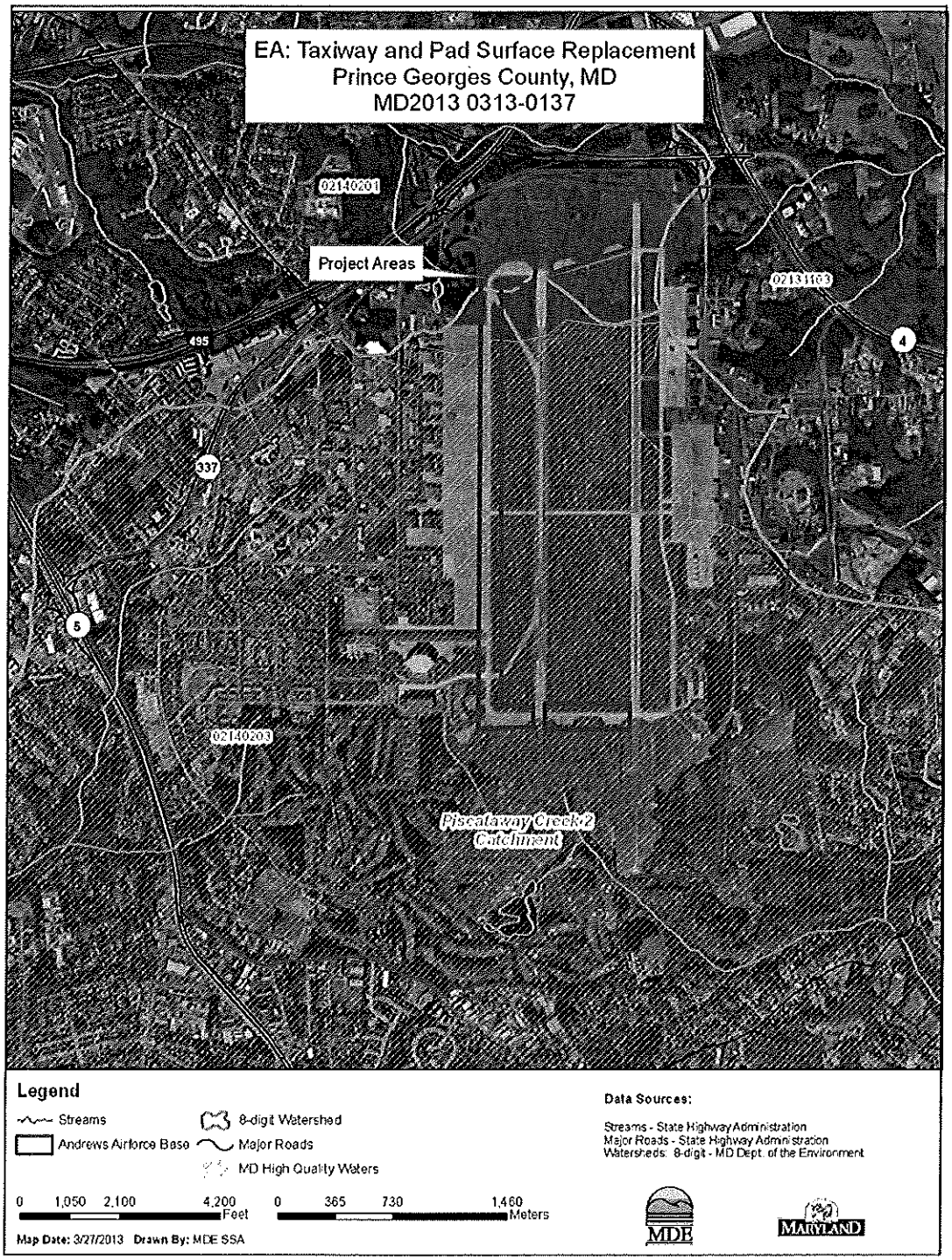
Stormwater

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

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

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

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


EA: Taxiway and Pad Surface Replacement
Prince Georges County, MD
MD2013 0313-0137
02140201
Project Areas
02131103
495
4
337
5
02140203
Piscataway Creek 2
Catchment
Legend
Streams
8-digit Watershed
Andrews Airforce Base
Major Roads
MD High Quality Waters
0 1,050 2,100 4,200 Feet
0 365 730 1,460 Meters
Map Date: 3/27/2013 Drawn By: MDE SSA
Data Sources:
Streams - State Highway Administration
Major Roads - State Highway Administration
Watersheds: 8-digit - MD Dept. of the Environment
MDE
MARYLAND

Maryland Department of Natural Resource's Comments on Environmental Assessment for Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12, and Pad 13 at Joint Base Andrews-Naval Air Facility Washington in Prince George's County, Maryland

JBA proposes to improve its operational efficiency by replacing Taxiways Sierra and Whiskey and Pads 12 and 13 on the airfield. The task for Taxiway Sierra would include demolishing and replacing approximately 49,500 square yards (10 acres) of existing pavements and shoulders and improving or replacing the taxiway's drainage, signage, and lighting systems. The task for Taxiway Whiskey would include replacing approximately 208,100 square yards (43 acres) of existing pavements and shoulders and improving or replacing the taxiway's drainage, signage, and lighting systems. Taxiway Sierra would be replaced before work on Taxiway Whiskey began. The area of Pad 12 is approximately 7,340 square yards (1.5 acres), and the area of Pad 13 is approximately 7,280 square yards (1.5 acres). The pavement on both pads is about 10 inches thick. Replacing the pads would include excavation, site preparation, striping, restoration of disturbed areas, and all necessary and essential utilities work to satisfy JBA operational requirements. Pads 12 and 13 would be replaced after work on Taxiway Whiskey was completed.

This environmental assessment (EA) has been prepared to address the potential impacts of undertaking the abovementioned project. This EA has been prepared to report an evaluation of the proposed action and alternatives, including the No Action Alternative. Resource areas addressed in the EA are noise, air quality, safety and occupational health, earth resources, water resources, infrastructure/utilities, transportation, hazardous materials and wastes, biological resources, cultural resources, historic and archaeological resources, socioeconomics (including environmental justice and protection of children), land use and visual resources, and sustainability and greening.

As described in the EA, project is generally consistent with Maryland's planning, programs and policies. The EA describes, for instance, how JBA will secure a stormwater management permit, mitigate for wetland areas lost, use Environmental Site Design (ESD), and comply with air quality and noise standards during the project's duration. The EA also includes JBA's Consistency Determination for Maryland's Coastal Program which describes how JBA will ensure the project will remain consistent with relevant enforceable coastal policies.

Beyond Compliance Opportunities

JBA is to be commended for its considerable efforts to reduce or eliminate impacts from this significant, high priority project. With this in mind, the following comments and recommendation are provided to help the project move forward successfully while supporting the broader goals of Bay restoration, sustainability, climate adaptation and Federal-State cooperation.[1]

The EA states that the project will crush and recycle concrete and other materials derived during the demolition of taxiways and pads. It is not clear where and how these recycled materials will be used and what safeguards will be applied to eliminate potential toxicity. Potential uses include road construction, buildings, shoreline protection and artificial reefs. The viability of

[1] Given in the spirit of cooperation embodied in the pending Maryland-Department of Defense Memorandum of Understanding (expected to be signed spring/early summer 2013).

various options will depend on a number of factors, including the quality and size of recycled material, its chemistry and toxicity, and the cost and transport options for moving the material to its ultimate target use or project. Given the large volume of recycled concrete anticipated from this project, it would appear unlikely that all of this volume could be used on site. Maryland DNR and the Maryland Coastal Program remain open to working with JBA to explore practical and sustainable uses of this potentially valuable material.

JBA, like other military and commercial airfields, uses deicing technologies during its normal operations during the colder months of the year. The EA also mentions that JBA is regulated as a larger quantity hazardous waste generator (JBA generates 2,205 pounds of hazardous waste/month). As generally understood, deicing chemicals often comingle with other chemicals (oils, greases or fuels present on aircraft or on the airfield) as they are washed away with stormwater. The EA describes upgrades or modifications to the airfields drainage and stormwater management systems as part of the taxiway and pad replacement. Given this, it appears this project provides a significant opportunity to demonstrate or use sustainable, green airport practices. Examples of such practices include limiting deicing to special containment areas, recycling deicing agents and the use of renewable thermal energy (on pavement and/or aircraft surfaces). These and other options can reduce or eliminate the need for deicing chemicals, saving money via lower operation and maintenance costs and reduce or eliminate environmental damage.[2, 3, 4]

The EA states: "All construction activities combined would generate approximately 5,336 tons (4,851 metric tons) of CO2, which would be below the CEQ threshold. There would be no changes in operational GHG emissions. These effects would be minor." It is not clear how this estimate of CO_2 emissions was calculated. Given the amount of concrete used in this project, this estimate would appear to be low. This estimate likely did not take into account the full carbon footprint in making, transporting and placing the concrete. One ton of cement (which is 10-15 % of concrete) generates about a ton of CO_2. Further, the aggregate used in concrete is generally mined and transported over considerable distances. Therefore, it is likely that the full carbon footprint in making, transporting and placing the concrete (including all of its components) is likely much higher than reported.

According to the EA, EO 13514 - Federal Leadership in Environmental, Energy, and Economic Performance outlines policies intended to ensure that Federal agencies evaluate climate-change risks and vulnerabilities and manage the short- and long-term effects of climate change on their operations and mission. The EO specifically requires agencies within DoD to measure, report, and reduce their GHG emissions from both their direct and indirect activities. The EA also states that DoD has committed to reducing GHG emissions from non-combat activities 34 percent by 2020 (DoD 2010). In addition, the CEQ recently released draft guidance on when and how Federal agencies should consider GHG emissions and climate change in NEPA analyses. The draft guidance includes a presumptive effects threshold of 27,563 tons per year (25,000 metric tons per year) of CO2 equivalent emissions from a Federal action (CEQ 2010).

[2] http://www.airportsgoinggreen.org/

[3] http://www.trb.org/Main/Blurbs/159464.aspx

[4] http://www.greenairports.eu/

Whether or not this project is below a regulatory or advisory threshold is not the point. This project involves removing large amounts of concrete and replacing it with even larger amounts. It will likely generate significant GHG emissions. In the spirit of EO 13514, JBA is encouraged to explore ways to reduce or mitigate the environmental footprint of this project. For instance, the concrete industry recognizes that it needs to reduce its carbon footprint and is finding ways to make concrete more sustainably. This includes, for instance, using alternate cement processes, entraining supercritical CO_2 and using alternate materials (e.g., fly ash). The concrete industry has also developed porous concrete allow infiltration while reducing run-off and improving traction. Porous concrete, while more widely accepted in low traffic areas, is also being used on runways and highways since it can improve traction by removing standing water. Finally, JBA can also deploy technologies such as solar power and energy efficient LED lights into its lighting systems to save money and energy and improve environmental performance.

All of the above recommendations are offered to support JBA, DoD and Maryland in reaching our broader goals of Bay restoration, sustainability, climate adaptation and Federal-State cooperation. If you have questions or comments regarding the above comments, you may reach Joe Abe at jabe@dnr.state.md.us or 410-260-8740.

20130123

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USAF

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 11TH WING (AFDW)
ANDREWS AIR FORCE BASE, MARYLAND 20762

RECEIVED
MAR 07 2013
BY: EJZ/ARCA

5 March 2013

MEMORANDUM FOR: SEE DISTRIBUTION

FROM: 11 CES/CEA
3466 North Carolina Avenue
Joint Base Andrews, MD 20762

SUBJECT: Environmental Assessment for Replacement of Taxiways Sierra, Taxiway Whiskey, Pad 12, and Pad 13 at Joint Base Andrews-Naval Air Facility Washington, Maryland - 30-Day Comment Period

PR Co.

1. Joint Base Andrews-Naval Air Facility Washington, Maryland (Joint Base Andrews) has prepared an Environmental Assessment (EA) for Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12, and Pad 13 at Joint Base Andrews. Pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 *United States Code* 4321–4347), Council on Environmental Quality 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 EA considers the potential consequences to human health and the natural environment. The EA examines the effects of the projects proposed in the EA and includes an analysis of the required No Action Alternative.

2. In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, we invite your agency to participate in the 30-day comment period for the draft EA and draft Finding of No Significant Impact (FONSI). Please distribute the draft EA and FONSI as appropriate for review. A Notice of Availability of the draft EA and draft FONSI will be published on 7 March 2013 in the *Upper Marlboro/Clinton/Ft. Washington Gazette* and the 8 March 2013 *Andrews Gazette*. Both newspapers are published weekly in Prince George's County, Maryland. The draft EA and draft FONSI are available online at http://www.andrews.af.mil/library/environmental/index.asp.

3. Please provide written comments to Anne Hodges, 11 CES/CEAO, 3466 North Carolina Avenue, Joint Base Andrews, MD 20762-4803 or send via email to anne.hodges@afncr.af.mil. All comments must be received by **8 April 2013**. If you need further information please contact Ms. Hodges at 301-981-1426.

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

Beth Cole Date 3/25/13

STEVE RICHARDS
Chief of Environmental Management

Vigilance - Precision - Global Impact

#13 BC/ARA 3/25/13
Replace taxiway infrastructure

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Office of the Planning Director
Prince George's County Planning Department

14741 Governor Oden Bowie Drive
Upper Marlboro, Maryland 20772
TTY: (301) 952-4366
www.mncppc.org/pgco
301-952-3595

D13-030701
MR-13007A

March 26, 2013

Ms. Anne Hodges
Environmental Planner
Joint Base Andrews Naval Air Facility
11 CES/CEAO
3466 North Carolina Avenue
Joint Base Andrews, MD 20762

RE: Proposed Action and Site Plan for Taxiway and Pad Replacement at Joint Base Andrews-Naval Air Facility Washington, Maryland

Dear Ms. Hodges:

In a letter dated November 29, 2012, the Prince George's County Planning Department responded to your request for comments during the preparation of the Environmental Assessment (EA) for the taxiway and pad replacement project at Joint Base Andrews. We appreciate the opportunity to respond to the completed EA at this time. Our comments have not changed since November; therefore, we are submitting for the record and reiterating the same comments.

The proposed action and site plan for taxiway and pad replacement at Joint Base Andrews (JBA) is designed to better accommodate larger and more modern aircraft; thus, JBA plans to replace Taxiways Sierra and Whiskey with wider taxiways. This action is necessary to conform to United States Air Force (USAF) and federal airfield design criteria, improve safety, and install airfield navigation systems that conform to USAF standards. JBA also plans to replace the pavement, shoulders, under-drains, and edge lights on Pads 12 and 13.

The proposed improvements are within an existing developed area. The proposed action would result in the impacts to 0.25 acres of wetlands for the replacement of the taxiways. The acreage of wetland buffer that would be impacted was not quantified in the report. Any impacts to wetlands and associated buffers on this site will be the jurisdiction of the U. S. Army Corps of Engineers and Maryland Department of Environment. No other adverse impacts on natural resources are anticipated.

The proposed project does not include any impacts to any cultural or historic resources within Prince George's County. JBA includes two properties designated as Prince George's County historic sites: 77-001-Forest Grove Methodist Church and Cemetery (Chapel 2), and 77-014-Belle Chance and Cemetery. Neither of these properties will be affected by the proposed action and site plan.

Based on the information provided, the scope of each of these changes is very limited, and for the most part they appear to be a maintenance function for JBA. Concrete batching, along with disposal and recycling of used pavement, will occur within the limits of the base. Contractors will use the Pearl Harbor Gate along Dower House Road. Given the great volume of pavement being placed through this project, transportation staff has a concern about the hauling of resources along Dower House Road. It would be very helpful to know the number of truckloads of sand and gravel that will be used for the making of concrete over the seven-month construction duration. This type of information would be useful in estimating the impacts that this traffic could have at each end of Dower House Road. While the proposed changes will not have an adverse long-term impact on the adjacent transportation network, some attention must be given to the impacts during the construction duration.

In addition, the staff agrees with the assessment conclusion that a short-term, minor, beneficial, and economical effect on the regional economy would be expected from implementing the proposed action.

Thank you again for allowing us the opportunity to comment on this Environmental Assessment. If you should have any additional questions or need additional information, please contact Fatimah Hasan, Planner Coordinator, Special Projects Section, Countywide Planning Division, at 301-952-3580, or via email at Fatimah.Hasan@ppd.mncppc.org.

Sincerely,

Fern Piret

Fern Piret
Planning Director

c: Derick Berlage, Chief, Countywide Planning Division
Maria Martin, Planning Supervisor, Special Projects Section, Countywide Planning Division
Katina Shoulars, Planning Supervisor, Environmental Planning Section, Countywide Planning Division
Howard Berger, Planning Supervisor, Historic Preservation Section, Countywide Planning Division
Theodore Kowaluk, Senior Planner, Special Projects Section, Countywide Planning Division
Tom Masog, Planner Coordinator, Transportation Planning Section, Countywide Planning Division
Fatimah Hasan, Planner Coordinator, Special Projects Section, Countywide Planning Division
Christine Osei, Mandatory Referral Project Manager, Special Projects Section, Countywide Planning Division

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

APR 0 3 2013

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

RE: Environmental Assessment for Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12, and Pad 13, Joint Base Andrews, Prince George's County, Maryland, March 2013

Dear Ms. Hodges:

In accordance with the National Environmental Policy Act (NEPA) of 1969, Section 309 of the Clean Air Act and the Council on Environmental Quality regulations implementing NEPA (40CFR 1500-1508), the U.S. Environmental Protection Agency has reviewed the Draft Environmental Assessment (EA) for the Replacement of Taxiway Sierra, Taxiway Whiskey, Pad 12, and Pad 13 at Joint Base Andrews (JBA)-Naval Air Facility, Washington, Prince George's County in Maryland.

The proposed project involves replacing, widening and adding shoulders to existing taxiways. The project also involves replacing Pads 12 &13. JBA has proposed the taxiway and pad replacements for the purpose and need of conforming to U.S. Air Force and federal standards and airfield design criteria in order to accommodate large, modern aircraft, as well as replacing deteriorating infrastructure. The EA analyzes the no action and the proposed action.

The proposed action will result in approximately 0.59 acres of temporary and permanent impacts to wetlands. EPA is aware that the U.S. Army Corps of Engineers Baltimore District recently issued a Public Notice for the proposed project and associated wetland impacts, for which the comment period closed prior to the close of the Environmental Assessment. EPA would recommend that in the future public notices for project impacts be released following or concurrent with the NEPA process. This is especially key as NEPA is about making informed decisions. When permits are received prior to or public noticed prior to the release of the EA, it suggest that the decision is already made. It would be more keeping with the spirit of NEPA if the timing of NEPA allowed input prior to a level of design ready for permitting.

EPA has provided comments and questions for your consideration in the Technical Comments document which is enclosed. EPA requests additional information to assess the impacts to the environment and natural resources. Specific comments address concerns with

water resources and vegetation. Thank you for coordinating with EPA on this project. Should you have any questions, please contact the staff reviewer for this project Ms. Alaina McCurdy at 215-814-2741.

Sincerely,

Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

Enclosure (1)

Technical Comments for JBA Taxiway and Pad Replacements EA

- Pg 1-3 mentions numerous other projects ongoing at JBA. EPA recently reviewed an EA for the Installation Development at JBA. EPA has concerns about the potential for cumulative impacts in this area. The analysis included in the EA is limited to projects that appear to overlap the construction period of the proposed project. We suggest that JBA consider evaluating all of the past, present, and reasonably foreseeable projects in a thorough cumulative impact assessment. It is suggested that a secondary and cumulative effects analysis begin with defining the geographic and temporal limits of the study; this is generally broader than the study area of the project. Geographic boundaries are typically shown on a map; and a historic baseline is often set at a major event changing the local environment. In the case of JBA, this could be the start of the facility. Analysis of the trend of the value and quantity of the resources of interest should be developed and considered as part of cumulative impacts.
- Additionally the document mentions that these modifications will be needed in order to accommodate larger aircrafts than the airfield was designed for. If there are multiple modifications that are needed in addition to those taxiway and pad replacements evaluated in this EA, it would be a more complete analysis if all of these modifications could have been evaluated in one document.
- EPA suggests more clearly stating the purpose and need for the proposed project. While the document does include a purpose and need section, it does not clearly or succinctly give a purpose and need statement. Many of the project needs are implied in various sections of the EA, however it would be beneficial if all of these needs were consolidated and stated in the purpose and need section. A discussion of project need would also be strengthened if a discussion or overview of airfield operations, use, etc were included.
- Please clarify the expected lifespan of these airfield improvements, as well as if additional modifications to taxiways and pads are possible in the near future.
- Pg 2-6- Will taxiway lighting be visible to surrounding communities or are lights directional?
- Please clarify if replaced stormwater drainage system drain or alter hydrology to wetlands in the airfield. Is the use of biotrenches feasible in addition to the use of the proposed dry swales?
- The EA mentions that there are munitions in the airfield soil. Is the preparation of an unexploded ordnances/munitions plan necessary?
- TCE is found on the airfield in the soil. The EA mentions that airfield groundwater is close to ground level. Are there any concerns about the TCE migrating into groundwater? Additionally, please clarify the amount of spoil being excavated that is from the TCE layer.
- The document includes a section regarding environmental justice (EJ). In order to include more meaningful analysis of EJ, EPA recommends that the EJ analysis include minority and low-income block group data, for block groups that include JBA and adjacent block groups. It is not clear how the block group data compares to county and state data provided. Please clarify if any additional community outreach was done for potential environmental justice communities. Based on the analysis provided it can't be

adequately determined if there potential communities of concern in or surrounding the project area.

- Noise analysis mostly for construction is included in the EA. The EA notes that noise considerations for larger planes that may utilize the airfield could not be estimated due to a variety of uncertainties. While we understand that at this time exact number of operations or larger crafts utilizing the airfield may not be known with great certainty, some level of projections or noise analysis for larger crafts should be included. In JBA's recent EA for multiple installation improvements, EPA raised concerns about noise analysis relating to Helicopter Operation Facility (HOF), which will accommodate an increase in missions of approximately 200%. Increased noises associated with the HOF and from larger aircraft present the potential for both individual adverse noise impacts as well as cumulative noise impacts. We suggest including a more robust noise analysis for each individual project and in the cumulative impact assessment for each EA.

JBA Taxiway and Pad EA

Comments and Responses

U.S. Environmental Protection Agency

Comment: Pg 1-3 mentions numerous other projects ongoing at JBA. EPA recently reviewed an EA for the Installation Development at JBA. EPA has concerns about the potential for cumulative impacts in this area. The analysis included in the EA is limited to projects that appear to overlap the construction period of the proposed project. We suggest that JBA consider evaluating all of the past, present, and reasonably foreseeable projects in a thorough cumulative impact assessment. It is suggested that a secondary and cumulative effects analysis begin with defining the geographic and temporal limits of the study; this is generally broader than the study area of the project. Geographic boundaries are typically shown on a map; and a historic baseline is often set at a major event changing the local environment. In the case of JBA, this could be the start of the facility. Analysis of the trend of the value and quantity of the resources of interest should be developed and considered as part of cumulative impacts.

***Response*:** A revised cumulative impacts section has been added to the EA.

Comment: Additionally the document mentions that these modifications will be needed in order to accommodate larger aircrafts than the airfield was designed for. If there are multiple modifications that are needed in addition to those taxiway and pad replacements evaluated in this EA, it would be a more complete analysis if all of these modifications could have been evaluated in one document.

***Response*:** Numerous modifications to the airfield are necessary to accommodate modern aircraft, but because those modifications will occur over many years and not all of the projects have been designed or approved, the projects are dealt with in separate NEPA documents. Where feasible, such as with the subject EA, multiple projects are analyzed in a single NEPA document.

Comment: EPA suggests more clearly stating the purpose and need for the proposed project. While the document does include a purpose and need section, it does not clearly or succinctly give a purpose and need statement. Many of the project needs are implied in various sections of the EA, however it would be beneficial if all of these needs were consolidated and stated in the purpose and need section. A discussion of project need would also be strengthened if a discussion or overview of airfield operations, use, etc were included.

***Response*:** The purpose and need for the projects are clearly stated in section 1.2. If EPA is referring to replacing taxiway lighting or stormwater system modifications by "project needs [that] are implied in various sections of the EA", these are not primary purposes of the projects, but are modifications that will be undertaken during project implementation for the sake of efficiency. That is, these modifications are best undertaken during taxiway replacement in the interest of efficient use of time and resources, rather than having to interrupt airfield operations at some time after the taxiways are replaced to undertake these modifications. To state that these secondary modifications are part of the purpose and need of the projects would be a misrepresentation.

Comment: Please clarify the expected lifespan of these airfield improvements, as well as if additional modifications to taxiways and pads are possible in the near future.

***Response*:** The new pavements will be designed to have a 20-year lifespan, although in practicality it is expected that they will be serviceable much longer than that. A note to this effect was added to the EA.

Comment: Pg 2-6- Will taxiway lighting be visible to surrounding communities or are lights directional?

***Response*:** All taxiway lighting is shielded by buildings on two sides and by topography and trees on other sides, so they are not visible from off-base. The new taxiway lighting would be no more visible from off base than the existing lighting.

Comment: Please clarify if replaced stormwater drainage system drain or alter hydrology to wetlands in the airfield. Is the use of biotrenches feasible in addition to the use of the proposed dry swales?

***Response*:** The stormwater system elements that will be replaced during taxiway replacement should not alter wetland hydrology. A larger, future project of refurbishing the entire airfield stormwater drainage system will assess impacts to airfield wetlands. Dry swales are the preferred stormwater BMP on the airfield because of the possibility that wildlife would be attracted to vegetative growth, and they would interfere with airfield operations. The dry swales will be maintained to minimize their attractiveness to wildlife.

Comment: The EA mentions that there are munitions in the airfield soil. Is the preparation of an unexploded ordnances/munitions plan necessary?

***Response*:** No. The Firing-in Buttress was used only for calibration and clearing of machine guns ranging from .30 caliber to 37mm on aircraft. Only inert rounds would be found in the soil. Lead, not UXO, is the concern in the area, and all samples taken to date have had concentrations of lead below the action level (400mg/kg).

Comment: TCE is found on the airfield in the soil. The EA mentions that airfield groundwater is close to ground level. Are there any concerns about the TCE migrating into groundwater? Additionally, please clarify the amount of spoil being excavated that is from the TCE layer.

***Response*:** TCE is found on the airfield in the soil in a site referred to as FT-02. Remediation and land use controls developed in cooperation with MDE and EPA are being implemented and monitored on the site. TCE contamination is in the groundwater and the project will follow all applicable procedures if contamination is encountered. Until the taxiway work commences the amount of spoil to be removed will remain undetermined.

Comment: The document includes a section regarding environmental justice (EJ). In order to include more meaningful analysis of EJ, EPA recommends that the EJ analysis include minority and low-income block group data, for block groups that include JBA and adjacent block groups. It is not clear how the block group data compares to county and state data provided. Please clarify if any additional community outreach was done for potential environmental justice communities. Based on the analysis provided it can't be adequately determined if there potential communities of concern in or surrounding the project area.

***Response*:** The discussion and analysis of EJ in the EA is suitable for the proposed action considered in the document. Replacing taxiway and pad pavements on the airfield will in no way affect any one surrounding community more than another and will not alter the effect of airfield operations on surrounding communities from the existing situation.

Comment: Noise analysis mostly for construction is included in the EA. The EA notes that noise considerations for larger planes that may utilize the airfield could not be estimated due to a variety of uncertainties. While we understand that at this time exact number of operations or larger crafts utilizing the airfield may not be known with great certainty, some level of projections or noise analysis for larger crafts should be included. In JBA's recent EA for multiple installation improvements, EPA raised concerns about noise analysis relating to Helicopter Operation Facility (HOF), which will accommodate an increase in missions of approximately 200%. Increased noises associated with the HOF and from larger aircraft present the potential for both individual adverse noise impacts as well as cumulative noise impacts. We suggest including a more robust noise analysis for each individual project and in the cumulative impact assessment for each EA.

***Response*:** The December 2007 Andrews Air Installation Compatible Use Zone (AICUZ) Study is the latest comprehensive study of air operations and noise impacts at JBA. The 2007 AICUZ study is based on annual aircraft operations of 141,000. The most recent biennial AICUZ operational and land use compatibility review (April 2012) found that annual aircraft operations have dropped to 95,000 and aircraft types have not significantly changed.

The fleet mix and air operations at JBA are not expected to change appreciably after runways and taxiways that can accommodate larger aircraft are in place. The newer, larger aircraft that the runways and taxiways will accommodate (e.g., Boeing 747-8I and Airbus 380) would replace existing or historical aircraft operations at JBA and thus would not cause an increase in aircraft operations. Therefore, there should be no changes in the overall noise or compatible use zone noise contours at the base. These newer aircraft, although larger, have sound levels (during take-off and landing) comparable to or less than older aircraft (FAA 2012). The overall reduction in noise in this larger class of commercial aircraft is due primarily to stricter requirements in the FAA Aircraft Certification process, particularly regarding noise (FAA 2003).

Similarly, the 200% increase in HOF mission operations would account for a very small percentage of JBA annual aircraft operations and would not appreciably affect the overall noise or compatible use zone noise contours at the base.

References

Federal Aviation Administration. 2012. *Estimated Airplane Noise Levels in A-Weighted Decibels*. http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/22945.

Federal Aviation Administration. 2003. *Noise Standards: Aircraft Type and Airworthiness Certification*. http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/22947

Maryland National Capitol Park and Planning Commission

Comment: Based on the information provided, the scope of each of these changes is very limited, and for the most part they appear to be a maintenance function for JBA. Concrete batching, along with disposal and recycling of used pavement, will occur within the limits of the base. Contractors will use the Pearl Harbor Gate along Dower House Road. Given the great volume of pavement being placed through this project, transportation staff has a concern about the hauling of resources along Dower House Road. It would be very helpful to know the number of truckloads of sand and gravel that will be used for the making of concrete over the seven-month construction duration. This type of information would be useful in estimating the impacts that this traffic could have at each end of Dower House Road. While the proposed changes will not have an adverse long-term impact on the adjacent transportation network, some attention must be given to the impacts during the construction duration.

***Response*:** The precise number of truck trips for delivery of materials to JBA cannot be known at this time, but for the purposes of air emissions estimations, and based on the amount of material to be removed from and needed for reconstructing the taxiways and pads and the average load a truck would carry, approximately 40 truck trips per day were estimated during construction.

Maryland Department of Natural Resources

Comment: The EA states that the project will crush and recycle concrete and other materials derived during the demolition of taxiways and pads. It is not clear where and how these recycled materials will be used and what safeguards will be applied to eliminate potential toxicity. Potential uses include road construction, buildings, shoreline protection and artificial reefs. The viability of various options will depend on a number of factors, including the quality and size of recycled material, its chemistry and

toxicity, and the cost and transport options for moving the material to its ultimate target use or project. Given the large volume of recycled concrete anticipated from this project, it would appear unlikely that all of this volume could be used on site. Maryland DNR and the Maryland Coastal Program remain open to working with JBA to explore practical and sustainable uses of this potentially valuable material.

> ***Response*:** The project will comply with all environmental regulations such as those for recycling, material reclaim and reuse, and waste disposal. Construction debris would be recycled or reused to the maximum extent practicable.

Comment: JBA, like other military and commercial airfields, uses deicing technologies during its normal operations during the colder months of the year. The EA also mentions that JBA is regulated as a larger quantity hazardous waste generator (JBA generates 2,205 pounds of hazardous waste/month). As generally understood, deicing chemicals often comingle with other chemicals (oils, greases or fuels present on aircraft or on the airfield) as they are washed away with stormwater. The EA describes upgrades or modifications to the airfields drainage and stormwater management systems as part of the taxiway and pad replacement. Given this, it appears this project provides a significant opportunity to demonstrate or use sustainable, green airport practices. Examples of such practices include limiting deicing to special containment areas, recycling deicing agents and the use of renewable thermal energy (on pavement and/or aircraft surfaces). These and other options can reduce or eliminate the need for deicing chemicals, saving money via lower operation and maintenance costs and reduce or eliminate environmental damage.

> ***Response*:** Noted. Minor elements of the airfield stormwater system will be affected by the taxiway and pad replacement project. A much larger project to refurbish the entire airfield stormwater drainage system is under consideration.

Comment: The EA states: "All construction activities combined would generate approximately 5,336 tons (4,851 metric tons) of CO_2, which would be below the CEQ threshold. There would be no changes in operational GHG emissions. These effects would be minor." It is not clear how this estimate of CO_2 emissions was calculated. Given the amount of concrete used in this project, this estimate would appear to be low. This estimate likely did not take into account the full carbon footprint in making, transporting and placing the concrete. One ton of cement (which is 10-15 % of concrete) generates about a ton of CO_2. Further, the aggregate used in concrete is generally mined and transported over considerable distances. Therefore, it is likely that the full carbon footprint in making, transporting and placing the concrete (including all of its components) is likely much higher than reported.

According to the EA, EO 13514 - Federal Leadership in Environmental, Energy, and Economic Performance outlines policies intended to ensure that Federal agencies evaluate climate-change risks and vulnerabilities and manage the short- and long-term effects of climate change on their operations and mission. The EO specifically requires agencies within DoD to measure, report, and reduce their GHG emissions from both their direct and indirect activities. The EA also states that DoD has committed to reducing GHG emissions from non-combat activities 34 percent by 2020 (DoD 2010). In addition, the CEQ recently released draft guidance on when and how Federal agencies should consider GHG emissions and climate change in NEPA analyses. The draft guidance includes a presumptive effects threshold of 27,563 tons per year (25,000 metric tons per year) of CO2 equivalent emissions from a Federal action (CEQ 2010).

Whether or not this project is below a regulatory or advisory threshold is not the point. This project involves removing large amounts of concrete and replacing it with even larger amounts. It will likely generate significant GHG emissions. In the spirit of EO 13514, JBA is encouraged to explore ways to reduce or mitigate the environmental footprint of this project. For instance, the concrete industry recognizes that it needs to reduce its carbon footprint and is finding ways to make concrete more

sustainably. This includes, for instance, using alternate cement processes, entraining supercritical CO_2 and using alternate materials (e.g., fly ash). The concrete industry has also developed porous concrete allow infiltration while reducing run-off and improving traction. Porous concrete, while more widely accepted in low traffic areas, is also being used on runways and highways since it can improve traction by removing standing water. Finally, JBA can also deploy technologies such as solar power and energy efficient LED lights into its lighting systems to save money and energy and improve environmental performance.

***Response*:** The taxiway project would include a number of items to reduce emissions and recycling efforts as required for airfield projects, including the use of recycled concrete generated on-site for use as base course and subbase course for the project, the use of 30% of Reclaimed Asphalt Pavement (RAP) to be included in the mix design for the Hot-Mix Asphalt (HMA) shoulder pavement, the use of fly ash in the PCC mix design, and the use of excavated material for fill. The project will be required to submit a Waste Management Plan for approval before the start of construction. In addition, the use of LED fixtures for the taxiway edge and centerline lighting, guidance signs, and instrument hold position lights and signs is required.

Appendix B
Air Quality: Supporting Documentation

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Methodology

The Air Force has considered project-related direct emissions from demolition and construction activities including the use of non-road equipment (e.g., bulldozers, backhoes), worker vehicles, transport of material and supplies, and fugitive particles from surface disturbance, storage piles, and operation of the concrete batch plant. Only cutback asphalt is an appreciable source of VOC emissions during any paving operations and is prohibited (except as a penetrating prime coat) under state regulations applicable to the region (USEPA 1995, COMAR 26.11.11.02). This section outlines the calculations made to derive these construction emission estimations.

Heavy Construction Equipment. Demolition and construction would involve demolition of existing taxiways and pads and construction of new taxiways and pads. Pieces of non-road equipment to be used for these activities would include backhoes, loaders, excavators, dozers, and pavers. Emission factors (in mass of pollutant per hour) were multiplied by the estimated running time to calculate total amount of pollutant from each piece of equipment. The following formula was used to calculate emissions from non-road engine sources:

$M_i = (N \times EF_i)$

where: M_i = mass of emissions of i^{th} pollutant
N = source population (units)
EF_i = average emissions of i^{th} pollutant per unit of use (e.g., grams per hour)

Construction Worker Vehicle Operations and Emissions from Materials Transport. Emissions from on-road vehicle use were included in the analysis. Emission factors for vehicles were multiplied by an estimated mileage to determine motor vehicle emissions. The analysis assumed conservatively that workers would drive vehicles for delivery and transport of materials 30 miles per day at an average speed of 35 miles per hour. The following formula was used to calculate emissions from on-road vehicle use.

$M_i = (N \times EF_i)$

where: M_i = mass of emissions of i^{th} pollutant
N = number of miles traveled
EF_i = average emissions of i^{th} pollutant per unit of use (e.g., grams per mile)

Surface Disturbance and Particulate from Storage Piles. The quantity of dust emissions from surface disturbance and storage piles is proportional to the area of land being worked and to the area of the pile. The following formula was used to calculate fugitive dust emissions from surface disturbance and materials storage piles (USEPA 1995 and USEPA 2005).

E = area x EF x PM_{10}/TSP x $PM_{2.5}/PM_{10}$ x capture fraction

where: open area = number of acres open (or of storage piles)
EF = 80 lb TSP/acre
PM_{10}/TSP = 0.45 lb PM_{10}/lb TSP
TSP = total suspended particulates
$PM_{2.5}/PM_{10}$ = 0.15 lb $PM_{2.5}$/lb PM_{10}
Capture fraction = 0.5

Particulates from Batch Plant. The quantity of dust emissions from the batch plant operations is proportional to the volume of material being processed. The following formula was used to calculate particulate emission from batch plant operations (USEPA 1995).

$M = (N \times EF)$

where: M = emissions of particulates

N = number of yard of material processed for each activity (i.e. material transfer, hopper loading, mixer, etc.)

EF = average emissions for each cubic yard of material processed

Table B-1. Construction Equipment Use

Equipment Type	Number of Units	Days on Site	Hours Per Day	Operating Hours
Excavators	2	575	12	13,800
Rollers	2	575	12	13,800
Rubber Tired Dozers	2	575	12	13,800
Plate Compactors	4	575	12	27,600
Loaders/Backhoes	4	575	12	27,600
Pavers	2	575	12	13,800
Paving Equipment	4	575	12	27,600

Note: 575 days is equal to approximately 230 work days per year * 2.5 years.

Table B-2. Construction Equipment Emission Factors (lbs/hour)

Equipment	CO	NO_x	VOC	SO_x	PM_{10}	$PM_{2.5}$	CO_2
Excavators	0.5828	1.3249	0.1695	0.0013	0.0727	0.0727	119.6
Rollers	0.4341	0.8607	0.1328	0.0008	0.0601	0.0601	67.1
Rubber Tired Dozers	1.5961	3.2672	0.3644	0.0025	0.1409	0.1409	239.1
Plate Compactors	0.0263	0.0328	0.0052	0.0001	0.0021	0.0021	4.3
Loaders/Backhoes	0.4063	0.7746	0.1204	0.0008	0.0599	0.0599	66.8
Pavers	0.5874	1.0796	0.1963	0.0009	0.0769	0.0769	77.9
Paving Equipment	0.0532	0.1061	0.0166	0.0002	0.0063	0.0063	12.6

Source CARB 2012

Table B-3. Construction Equipment Emissions (tons)

Equipment	CO	NO_x	VOC	SO_x	PM_{10}	$PM_{2.5}$	CO_2
Excavators	4.0216	9.1418	1.1696	0.0091	0.5018	0.5018	825.1104
Excavators	2.9953	5.9387	0.9163	0.0053	0.4147	0.4147	462.6649
Rollers	11.0128	22.5436	2.5144	0.0169	0.9721	0.9721	1649.8290
Rubber Tired Dozers	0.3635	0.4533	0.0712	0.0009	0.0287	0.0287	59.5305
Plate Compactors	5.6075	10.6890	1.6616	0.0107	0.8263	0.8263	921.9279
Loaders/Backhoes	4.0533	7.4492	1.3545	0.0062	0.5306	0.5306	537.7567
Pavers	0.7346	1.4639	0.2288	0.0022	0.0870	0.0870	174.2651
Total	**28.79**	**57.68**	**7.92**	**0.0513**	**3.36**	**3.36**	**4631.08**

Table B-4. Particulates from Surface Disturbance

TSP Emissions	37.4	lb/acre				
PM_{10}/TSP	0.45					
$PM_{2.5}/PM_{10}$	0.15					
Period of Disturbance	30	days				
Capture Fraction	0.5					
Building/Facility	Area [acres]	TSP [lbs]	PM_{10} [lbs]	PM_{10} [tons]	$PM_{2.5}$ [lbs]	$PM_{2.5}$ [tons]
All Facilities	10.0	24,000	10,800	5.40	810	0.41
Total	**10.0**	**24,000**	**10,800**	**5.40**	**810**	**0.41**

Source: USEPA 1995

Table B-5. Particulates from Batch Plant

Process	Emission Factor (lbs/yd^3)	Material Processed (yd^3/yr)	Estimated PM_{10} Emissions (tons/yr)
Sand and Aggregate Transfer	0.05	59,257	1.5
Pneumatic Unloading to elevated storage Silo	0.07	59,257	2.1
Weigh Hopper Loading	0.04	59,257	1.2
Central Mix - Mixer Loading	0.07	59,257	2.1
Total	--	--	6.8

Source: USEPA 1995

Table B-6. Particulates from Storage Piles

TSP Emissions	3.5	lb/acre/day				
PM_{10}/TSP	0.45					
$PM_{2.5}/PM_{10}$	0.15					
Period	365	days				
Capture Fraction	0.5					
Storage Pile	Area [acres]	TSP[lbs]	PM_{10}[lbs]	PM_{10}[tons]	$PM_{2.5}$[lbs]	$PM_{2.5}$[tons]
Batch Plant	3.0	3,833	1,725	0.86	129	0.06
Aggregate Storage	3.0	3,833	1,725	0.86	129	0.06
Total	6.0	7665.0	3449.3	1.7	258.7	0.1

Source: USEPA 1995

Table B-7. Emissions from Deliveries and Materials Transport

Number of Deliveries	21						
Number of Trips	2						
Miles Per Trip	30						
Days of Construction	230						
Total Miles	295,333						
Pollutant	**CO**	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Emission Factor (lbs/mile)	2.19E-02	2.37E-02	2.99E-03	2.56E-05	8.56E-04	7.39E-04	2.72E+00
Total Emissions (lbs)	6.48E+03	7.00E+03	8.84E+02	7.57E+00	2.53E+02	2.18E+02	8.03E+05
Total Emissions (tons)	**3.24E+00**	**3.50E+00**	**4.42E-01**	**3.79E-03**	**1.26E-01**	**1.09E-01**	**4.02E+02**

Source: CARB 2012

Table B-8. Emissions from Worker Commutes

Number of Workers	40						
Number of Trips	2						
Miles Per Trip	30						
Days of Construction	230						
Total Miles	552,000						
Pollutant	**CO**	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Emission Factor (lbs/mile)	1.05E-02	1.10E-03	1.08E-03	1.07E-05	8.51E-05	5.29E-05	1.10E+00
Total Emissions (lbs)	5.82E+03	6.09E+02	5.96E+02	5.93E+00	4.70E+01	2.92E+01	6.07E+05
Total Emissions (tons)	**2.91E+00**	**3.04E-01**	**2.98E-01**	**2.97E-03**	**2.35E-02**	**1.46E-02**	**3.03E+02**

Source: CARB 2012

Table B-9. Total Construction Emissions (tons)

Activity/Source	**CO**	**NO_x**	**VOC**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Construction Equipment	28.79	57.68	7.92	0.05	3.36	3.36	4631.08
Surface Disturbance	-	-	-	-	5.40	0.41	-
Batch Plant	-	-	-	-	6.81	1.02	-
Storage Pile	-	-	-	-	1.72	0.13	-
Deliveries and Material Transport	3.24	3.50	0.44	0.00	0.13	0.11	401.57
Worker Commutes	2.91	0.30	0.30	0.00	0.02	0.01	303.47
Total Construction Emissions	**34.94**	**61.49**	**8.66**	**0.06**	**17.45**	**5.04**	**5,336.12**
Total Annual Construction Emissions	**14.0**	**24.6**	**3.5**	**0.0**	**7.0**	**2.0**	**2,134.45**

Source: CARB 2012, SECARB 1994, USEPA 1995

Appendix C
Economic Impact Forecast System (EIFS) Model

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ECONOMIC IMPACT FORECAST SYSTEM (EIFS) MODEL

Socioeconomic Impact Assessment

Socioeconomic impacts are linked through cause-and-effect relationships. Military payrolls and local procurement contribute to the economic base for the ROI. In this regard, the proposed JBA airfield taxiway repair project would have a multiplier effect on the local and regional economy. With the proposed action, direct jobs would be created (e.g., construction jobs), generating new income and increasing personal spending. This spending generally creates secondary jobs, increases business volume, and increases revenues for schools and other social services.

The Economic Impact Forecast System

The U.S. Army, with the assistance of many academic and professional economists and regional scientists, developed EIFS to address the economic impacts of NEPA-requiring actions and to measure their significance. As a result of its designed applicability, and in the interest of uniformity, EIFS should be used in NEPA assessments. The entire system is designed for the scrutiny of a populace affected by the actions being studied. The algorithms in EIFS are simple and easy to understand, but still have firm, defensible bases in regional economic theory.

EIFS was developed under a joint project of the U.S. Army Corps of Engineers, the U.S. Army Environmental Policy Institute, and the Computer and Information Science Department of Clark Atlanta University. EIFS is implemented as an on-line system supported by the U.S. Army Corps of Engineers, Mobile District. The system is available to anyone with an approved user-id and password. U.S. Army Corps of Engineers staff is available to assist with the use of EIFS.

The databases in EIFS are national in scope and cover the approximately 3,700 counties, parishes, and independent cities that are recognized as reporting units by federal agencies. EIFS allows the user to define an economic ROI by identifying the counties, parishes, or cities to be analyzed. Once the ROI is defined, the system aggregates the data, calculates multipliers and other variables used in the various models in EIFS, and prompts the user for forecast input data.

The EIFS Model

The basis of the EIFS analytical capabilities is the calculation of multipliers that are used to estimate the impacts resulting from federal-related changes in local expenditures or employment. In calculating the multipliers, EIFS uses the economic base model approach, which relies on the ratio of total economic activity to basic economic activity. Basic, in this context, is defined as the production or employment engaged to supply goods and services outside the ROI or by federal activities (such as military installations and their employees). According to economic base theory, the ratio of total income to basic income is measurable (as the multiplier) and sufficiently stable so that future changes in economic activity can be forecast. This technique is especially appropriate for estimating aggregate impacts and makes the economic base model ideal for the EA and EIS process.

The multiplier is interpreted as the total impact on the economy of the region resulting from a unit change in its base sector; for example, a dollar increase in local expenditures because of an expansion of its military installation. EIFS estimates its multipliers using a location quotient approach based on the concentration of industries within the region relative to the industrial concentrations for the nation.

The user inputs into the model the data elements which describe the action: the change in expenditures, or dollar volume of the construction project(s); change in civilian or military employment; average annual

income of affected civilian or military employees; the percent of civilians expected to relocate because of the proposed action; and the percent of military living on-post. Once these are entered into the EIFS model, a projection of changes in the local economy is provided. These are projected changes in sales volume, income, employment, and population. These four indicator variables are used to measure and evaluate socioeconomic impacts. Sales volume is the direct and indirect change in local business activity and sales (total retail and wholesale trade sales, total selected service receipts, and value-added by manufacturing). Employment is the total change in local employment because of the proposed action, including not only the direct and secondary changes in local employment, but also those personnel who are initially affected by the military action. Income is the total change in local wages and salaries because of the proposed action, which includes the sum of the direct and indirect wages and salaries, plus the income of the civilian and military personnel affected by the proposed action. Population is the increase or decrease in the local population as a result of the proposed action.

The proposed action at JBA is the replacement of the airfield's Taxiways Sierra and Whiskey and Pads 12 and 13. The current working estimate for the total cost of the proposed project (about $44,846,500) was divided over the estimated construction period (about 3 years) and input in to the EIFS model as the change in expenditures (about $14,948,800 per year).

The Significance of Socioeconomic Impacts

Once model projections are obtained, the Rational Threshold Value (RTV) profile allows the user to evaluate the significance of the impacts. This analytical tool reviews the historical trends for the defined region and develops measures of local historical fluctuations in sales volume, income, employment, and population. These evaluations identify the positive and negative changes within which a project can affect the local economy without creating a significant impact. The greatest historical changes define the boundaries that provide a basis for comparing an action's impact on the historical fluctuation in a particular area. Specifically, EIFS sets the boundaries by multiplying the maximum historical deviation of the following variables:

	Increase	Decrease
Sales Volume	100%	75%
Income	100%	67%
Employment	100%	67%
Population	100%	50%

These boundaries determine the amount of change that will affect an area. The percentage allowances are arbitrary, but sensible. The maximum positive historical fluctuation is allowed with expansion because economic growth is beneficial. While cases of damaging economic growth have been cited, and although the zero-growth concept is being accepted by many local planning groups, military base reductions and closures generally are more injurious to local economics than are expansion.

The major strengths of the RTV are its specificity to the region under analysis and its basis on actual historical data for the region. The EIFS impact model, in combination with the RTV, has proven successful in addressing perceived socioeconomic impacts. The EIFS model and the RTV technique for measuring the intensity of impacts have been reviewed by economic experts and have been deemed theoretically sound.

The following are the EIFS input and output data for the proposed action and the RTV values for the ROI.

EIFS REPORT

PROJECT NAME

JBA Taxiway EA

STUDY AREA

Prince George's County, MD

FORECAST INPUT

Change In Local Expenditures	$14,948,800
Change In Civilian Employment	0
Average Income of Affected Civilian	$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	$0
Percent of Military Living On-post	0

FORECAST OUTPUT

Employment Multiplier	2.83	
Income Multiplier	2.83	
Sales Volume – Direct	$14,948,800	
Sales Volume – Induced	$27,356,300	
Sales Volume – Total	$42,305,100	0.14%
Income – Direct	$2,733,292	
Income - Induced	$5,001,924	
Income – Total (place of work)	$7,735,217	0.04%
Employment – Direct	63	
Employment – Induced	115	
Employment – Total	178	0.05%
Local Population	0	
Local Off-base Population	0	0.00%

RTV SUMMARY

	Sales Volume	Income	Employment	Population
Positive RTV	13.74%	11.72%	4.59%	3.30%
Negative RTV	-5.32%	-4.48%	-4.17%	-0.85%

RTV DETAILED

SALES VOLUME

Year	Value	Adj Value	Change	Deviation	%Deviation
1969	1311821	5732658	0	0	0
1970	1486616	6139724	407067	153154	2.49
1971	1666838	6600679	460954	207041	3.14
1972	1883086	7212219	611541	357628	4.96
1973	2110529	7619009	406790	152877	2.01
1974	2307655	7499879	-119131	-373044	-4.97
1975	2453531	7311522	-188356	-442269	-6.05
1976	2699624	7612939	301417	47504	0.62
1977	2935901	7750779	137839	-116074	-1.5
1978	3254441	8005925	255146	1233	0.02
1979	3631494	8025602	19677	-234236	-2.92
1980	4028557	7815401	-210201	-464114	-5.94
1981	4430916	7798412	-16989	-270902	-3.47
1982	4577146	7598062	-200350	-454263	-5.98
1983	4970975	8003270	405208	151295	1.89
1984	5600643	8624990	621720	367807	4.26
1985	6376749	9501356	876366	622453	6.55
1986	7047456	10289286	787930	534017	5.19
1987	7885395	12222362	1933076	1679163	13.74
1988	8587537	11679050	-543311	-797224	-6.83
1989	9197479	11864748	185697	-68216	-0.57
1990	10021287	12326183	461436	207523	1.68
1991	9955098	11747015	-579168	-833081	-7.09
1992	10238359	11671729	-75286	-329199	-2.82
1993	10633391	11803064	131335	-122578	-1.04
1994	11010346	11891174	88110	-165803	-1.39
1995	11317030	11882881	-8293	-262206	-2.21
1996	11880862	12118479	235598	-18315	-0.15
1997	12781994	12781994	663515	409602	3.2
1998	13284829	13019133	237139	-16774	-0.13
1999	13818444	13265706	246573	-7340	-0.06
2000	14900935	13857870	592164	338251	2.44

INCOME

Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	2711417	11848892	0	0	0
1970	3132753	12938270	1089378	755077	5.84
1971	3439625	13620915	682645	348344	2.56
1972	3741997	14331848	710933	376632	2.63
1973	4069014	14689140	357292	22991	0.16
1974	4399110	14297108	-392033	-726334	-5.08
1975	4719196	14063204	-233903	-568204	-4.04
1976	5083661	14335924	272720	-61581	-0.43
1977	5448505	14384054	48130	-286171	-1.99
1978	5881297	14467991	83937	-250364	-1.73
1979	6417356	14182357	-285634	-619935	-4.37
1980	7049501	13676032	-506325	-840626	-6.15
1981	7818331	13760262	84230	-250071	-1.82
1982	8432835	13998506	238243	-96058	-0.69
1983	9096525	14645405	646900	312599	2.13
1984	10119271	15583677	938272	603971	3.88
1985	11083235	16514020	930343	596042	3.61
1986	11916961	17398764	884743	550442	3.16
1987	12959671	20087489	2688726	2354425	11.72
1988	14076285	19143748	-943742	-1278043	-6.68
1989	15176568	19577772	434024	99723	0.51
1990	16172648	19892357	314585	-19716	-0.1
1991	16716212	19725129	-167228	-501529	-2.54
1992	17356581	19786502	61373	-272928	-1.38
1993	18039887	20024275	237773	-96528	-0.48
1994	18746733	20246472	222198	-112103	-0.55
1995	19165209	20123469	-123004	-457305	-2.27
1996	19671905	20065343	-58126	-392427	-1.96
1997	20616650	20616650	551307	217006	1.05
1998	21712782	21278527	661877	327576	1.54
1999	22554116	21651951	373424	39123	0.18
2000	24243561	22546512	894561	560260	2.48

EMPLOYMENT

Year	Value	Change	Deviation	%Deviation
1969	190249	0	0	0
1970	198932	8683	2018	1.01
1971	208284	9352	2687	1.29
1972	221176	12892	6227	2.82
1973	229967	8791	2126	0.92
1974	232606	2639	-4026	-1.73
1975	232320	-286	-6951	-2.99
1976	234526	2206	-4459	-1.9
1977	239433	4907	-1758	-0.73
1978	250626	11193	4528	1.81
1979	257679	7053	388	0.15
1980	264693	7014	349	0.13
1981	267346	2653	-4012	-1.5
1982	261973	-5373	-12038	-4.6
1983	271284	9311	2646	0.98
1984	287076	15792	9127	3.18
1985	307866	20790	14125	4.59
1986	324453	16587	9922	3.06
1987	340835	16382	9717	2.85
1988	356225	15390	8725	2.45
1989	366294	10069	3404	0.93
1990	378979	12685	6020	1.59
1991	363077	-15902	-22567	-6.22
1992	356169	-6908	-13573	-3.81
1993	359769	3600	-3065	-0.85
1994	364674	4905	-1760	-0.48
1995	369723	5049	-1616	-0.44
1996	378225	8502	1837	0.49
1997	387407	9182	2517	0.65
1998	390484	3077	-3588	-0.92
1999	395371	4887	-1778	-0.45
2000	403532	8161	1496	0.37

POPULATION

Year	Value	Change	Deviation	%Deviation
1969	639024	0	0	0
1970	666136	27112	21969	3.3
1971	687757	21621	16478	2.4
1972	697949	10192	5049	0.72
1973	693012	-4937	-10080	-1.45
1974	689495	-3517	-8660	-1.26
1975	683044	-6451	-11594	-1.7
1976	680269	-2775	-7918	-1.16
1977	674922	-5347	-10490	-1.55
1978	671171	-3751	-8894	-1.33
1979	665610	-5561	-10704	-1.61
1980	666369	759	-4384	-0.66
1981	670209	3840	-1303	-0.19
1982	671811	1602	-3541	-0.53
1983	674430	2619	-2524	-0.37
1984	679390	4960	-183	-0.03
1985	683487	4097	-1046	-0.15
1986	688863	5376	233	0.03
1987	694845	5982	839	0.12
1988	708095	13250	8107	1.14
1989	719550	11455	6312	0.88
1990	731076	11526	6383	0.87
1991	743058	11982	6839	0.92
1992	749080	6022	879	0.12
1993	753273	4193	-950	-0.13
1994	762733	9460	4317	0.57
1995	770861	8128	2985	0.39
1996	779187	8326	3183	0.41
1997	780666	1479	-3664	-0.47
1998	789037	8371	3228	0.41
1999	795048	6011	868	0.11
2000	803612	8564	3421	0.43

****** End of Report ******

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Appendix D
Coastal Zone Consistency Determination

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Consistency with Maryland Coastal Program Enforceable Coastal Policies

Joint Base Andrews is within Maryland's designated coastal zone, and as such is regulated under the federal Coastal Zone Management Act (CZMA) and Maryland's federally-approved Coastal Zone Management Program.

The project proposed in the EA would be fully consistent with Maryland's Enforceable Coastal Policies. No effects on Maryland's coastal resources would be expected from implementing the project in the EA. All activities would be conducted in accordance with applicable laws, regulations, and policies governing erosion and sediment control and stormwater management, which would ensure that the project would occur in a manner consistent with the applicable Maryland Coastal Program enforceable policies. A synopsis of how the project would be consistent with the enforceable coastal policies is provided below.

Maryland's Enforceable Coastal Policies are divided into three general sections: General Policies, Coastal Resources, and Coastal Uses. The General Policies are further divided into Core Policies, Water Quality, and Flood Hazards. Compliance of the project proposed in the EA with each of the applicable enforceable policies is discussed below. Policies not applicable to the proposed project are noted.

GENERAL POLICIES

Core Policies

Policy: It is State policy to maintain that degree of purity of air resources which will protect the health, general welfare, and property of the people of the State. MDE (C9) Md. Code Ann., Envir. §§ 2-102 to -103.

As noted in Section 3.2.2 of the EA, the Air Force and any contractors would comply with all applicable air pollution control regulations when implementing the project proposed in the EA. Section 3.2 of the EA contains a detailed discussion of the projected air emissions associated with the proposed project. No boilers or other equipment capable of producing emissions would be expected to be installed as a result of the proposed project.

Policy: The environment shall be free from noise which may jeopardize health, general welfare, or property, or which degrades the quality of life. MDE (C9) COMAR 26.02.03.02.

Section 3.1 of the EA provides a detailed discussion of the noise environment and expected noise-related impacts associated with the project proposed in the EA. Construction noise associated with each project would cease upon completion of construction and no significant new sources of environmental noise would be introduced.

Policy: Soil erosion shall be prevented to preserve natural resources and wildlife; control floods; prevent impairment of dams and reservoirs; maintain the navigability of rivers and harbors; protect the tax base, the public lands, and the health, safety and general welfare of the people of the State, and to enhance their living environment. MDA (C4) Md. Code Ann., Agric. § 8- 102(d).

JBA will control pre- and post-construction stormwater runoff, including erosion, sedimentation, and nonpoint source pollution, throughout the duration of each project. JBA will comply with the requirements described in the MDE document *Maryland Stormwater Management Guidelines for State and Federal Projects* (MDE 2010) and the MDE *Stormwater Management Act of 2007* (MDE 2007). JBA

will implement environmental site design to the maximum extent practicable through the use of nonstructural BMPs and other site design techniques.

Policy: Controlled hazardous substances may not be stored, treated, dumped, discharged, abandoned, or otherwise disposed anywhere other than a permitted controlled hazardous substance facility or a facility that provides an equivalent level of environmental protection. MDE (D4) Md. Code Ann., Envir. § 7-265(a).

All contractors involved with implementing the proposed actions would be required to comply with JBA's Environmental Protection Standards for contracts, which includes managing, storing, transporting, and disposing of hazardous materials and wastes and taking all necessary precautions to prevent spills of hazardous materials (including oils and hazardous wastes) in accordance with all applicable federal, state, and local laws and regulations.

Water Quality Policies

Policy: No one may add, introduce, leak, spill, or emit any liquid, gaseous, solid, or other substance that will pollute any waters of the State without State authorization. MDE (A5) Md. Code Ann., Envir. §§ 4-402, 9-101, 9-322.

The EA discusses compliance with laws, regulations, and policies related to the use, storage, and disposal of hazardous wastes and materials in Section 3.8. All contractors involved with implementing the proposed actions would be required to use hazardous materials; manage, store, transport, and dispose of hazardous wastes; and take all necessary precautions to prevent spills of hazardous materials (including oils and hazardous wastes) in accordance with all applicable JBA environmental standards and federal, state, and local laws and regulations. This would include any contaminated soil encountered near ERP sites.

Policy: All waters of the State shall be protected for water contact recreation, fish, and other aquatic life and wildlife. Shellfish harvesting and recreational trout waters and waters worthy of protection because of their unspoiled character shall receive additional protection. MDE (A1) COMAR 26.08.02.02.

JBA would protect the water quality of state waters by implementing erosion and sediment control measures on all construction sites and control pre- and post-construction stormwater runoff, including erosion, sedimentation, and nonpoint source pollution in accordance with Maryland *Stormwater Management Guidelines for State and Federal Projects* (MDE 2010), and the MDE *Stormwater Management Act of 2007* (MDE 2007). Additionally, all contractors would be required to manage, store, transport, and dispose of hazardous materials and wastes properly.

Policy: Any development or redevelopment of land for residential, commercial, industrial, or institutional purposes shall use small-scale non-structural stormwater management practices and site planning that mimics natural hydrologic conditions, to the maximum extent practicable. Development or redevelopment will be consistent with this policy when channel stability and 100 percent of the average annual predevelopment groundwater recharge are maintained, nonpoint source pollution is minimized, and structural stormwater management practices are used only if determined to be absolutely necessary. MDE (C9) Md. Code Ann., Envir. § 4-203; COMAR 26.17.02.01, .06.

JBA will incorporate Sustainable Design and Development and energy conservation principles into project execution, and all construction will be designed to incorporate low-impact development practices in accordance with EO 13423 and EO 13514, the Energy Policy Act of 2005, the Energy Independence

and Security Act 2007, Army Sustainable Design and Development Policy, other applicable codes, laws and EOs.

Flood Hazards Policies

None of the Flood Hazards Policies are applicable to the proposed project in the EA. The proposed project would not occur in a floodplain.

COASTAL RESOURCES POLICIES

The Chesapeake and Atlantic Coastal Bays Critical Area

None of the Chesapeake and Atlantic Coastal Bays Critical Area Policies are applicable to the proposed project in the EA. The proposed project would not occur in a Chesapeake and Atlantic Coastal Bays Critical Area.

Tidal Wetlands

None of the Tidal Wetlands Policies are applicable to the proposed project in the EA. The proposed project would not occur in a tidal wetland.

Non-Tidal Wetlands

Policy: 1. Removal, excavation, grading, dredging, dumping, or discharging of, or filling a non-tidal wetland with materials of any kind, including the driving of piles and placing of obstructions; changing existing drainage characteristics, sedimentation patterns, flow patterns, or flood retention characteristics; disturbing the water level or water table; or removing or destroying plant life that would alter the character of a non-tidal wetland is prohibited unless: The proposed project has no practicable alternative…

The proposed project would result in the loss of approximately 0.4 acre of non-tidal wetlands. Before the start of construction, appropriate permits and approvals would be obtained. JBA would work with USACE and MDE to define the specific mitigation plan. A FONPA for the wetland impacts caused by the proposed project has been prepared and is attached to this EA. JBA or its contractor would obtain and comply with the mitigation requirements of a CWA section 404 permit for the wetland impacts associated with the proposed project.

Forests

Policy: The Forest Conservation Act and its implementing regulations, as approved by NOAA, are enforceable policies. Generally, before developing an area greater than 40,000 square feet, forested and environmentally sensitive areas must be identified and preserved whenever possible. If these areas cannot be preserved, reforestation or other mitigation is required to replace the values associated with them. This policy does not apply in the Critical Area. DNR (C5) Md. Code Ann., Nat. Res. §§ 5-1601 to -1613; COMAR 08.19.01-.06.

Policy: Forestry activities shall provide for adequate restocking, after cutting, of trees of desirable species and condition; provide for reserving, for growth and subsequent cutting, a sufficient growing stock of thrifty trees of desirable species to keep the land reasonably productive; and prevent clear-

cutting, or limit the size of a tract to be clear-cut in areas where clear-cutting will seriously interfere with protection of a watershed. DNR (C5) Md. Code Ann., Nat. Res. § 5-606.

The Forests Policies are not applicable to the proposed project in the EA. The proposed project would not affect forests of Maryland.

Historical and Archaeological Sites

The Historical and Archaeological Sites Policy is not applicable to the proposed project. The proposed project would not involve a submerged archaeological historic property, a cave feature or archeological site under state control, or a burial site or cemetery.

The Living Aquatic Resources Policies are not applicable to the proposed project in the EA. The proposed project would not affect aquatic resources.

COASTAL USES

The Coastal Uses Policies listed below are not applicable to the proposed project.

Mineral Extraction: The proposed project does not involve mineral extraction.

Electrical Generation and Transmission: The proposed project does not involve power plant construction, electrical transmission lines, or cooling water intake structures.

Tidal Shore Erosion Control: No tidal shores occur within the proposed project footprint.

Oil and Natural Gas Facilities: The proposed project would not involve vessels transporting oil or above-ground oil storage sites.

Dredging and Disposal of Dredged Material: The proposed project would not involve dredging or the disposal of dredged material.

Navigation: The proposed project would not involve navigation or navigation-related facilities.

Transportation: The proposed project is not a transportation development or improvement project.

Agriculture: The proposed project is not agriculture related.

Sewage Treatment: The proposed project would not involve the discharge of sewage effluent, a sewage treatment facility, or an on-site sewage disposal system.

Development

Some development policies are applicable to the proposed project:

Policy: Any development shall be designed to minimize erosion and keep sediment onsite. MDE (C4) COMAR 26.17.01.08.

Policy: Development must avoid and then minimize the alteration or impairment of tidal and non-tidal wetlands; minimize damage to water quality and natural habitats; minimize the cutting or clearing of

trees and other woody plants; and preserve sites and structures of historical, archeological, and architectural significance and their appurtenances and environmental settings. MDE/DNR/CAC (D6) Md. Code Ann., Envir. §§ 4-402, 5-907(a), 16-102(b); Md. Code Ann., Nat. Res. §§ 5-1606(c), 8-1801(a); Md. Code Ann., Art. 66B § 8.01(b); COMAR 26.24.01.01(A).

JBA would protect the water quality of state waters by implementing erosion and sediment control measures on all construction sites and control pre- and post-construction stormwater runoff, including erosion, sedimentation, and nonpoint source pollution in accordance with Maryland *Stormwater Management Guidelines for State and Federal Projects* (MDE 2010) and the MDE *Stormwater Management Act of 2007* (MDE 2007). JBA will also incorporate Sustainable Design and Development and energy conservation principles into project execution.

Policy: Any proposed development may only be located where the water supply system, sewerage system, or solid waste acceptance facility is adequate to serve the proposed construction, taking into account all existing and approved developments in the service area and any water supply system, sewerage system, or solid waste acceptance facility described in the application and will not overload any present facility for conveying, pumping, storing, or treating water, sewage, or solid waste. MDE (C9) Md. Code Ann., Envir. § 9-512.

Policy: A proposed construction project must have an allocation of water and wastewater from the county whose facilities would be affected or, in the alternative, prove access to an acceptable well and on-site sewage disposal system. The water supply system, sewerage system, and solid waste acceptance facility on which the building or development would rely must be capable of handling the needs of the proposed project in addition to those of existing and approved developments. MDE (D6) Md. Code Ann., Envir. § 9-512.

Policy: To meet the needs of existing and future development, communities must identify adequate drinking water and water resources and suitable receiving waters and land areas for stormwater management and wastewater treatment and disposal. MDE (D6) Md. Code Ann., Art. 66B § 3.05.

All areas of JBA are served by adequate utility systems.

Other development policies are not applicable to the proposed project: The project does not involve:

- A residence or commercial establishment that is served or will be served by an on-site sewage disposal system or private water system.
- Grading or building in the Severn River Watershed.
- Establishment of an industrial facility.
- Because the development is on JBA the following development policies do not apply to the proposed projects:
- Local citizens shall be active partners in planning and implementation of development. MDP (D6) Md. Code Ann., St. Fin. & Proc. §§ 5-7A-01 to -02.
- Development shall protect existing community character and be concentrated in existing population and business centers, growth areas adjacent to these centers, or strategically selected new centers. MDP (D6) Md. Code Ann., St. Fin. & Proc. §§ 5-7A-01 to -02.

- Development shall be located near available or planned transit options. MDP (D6) Md. Code Ann., St. Fin. & Proc. §§ 5-7A-01 to -02.

- Whenever possible, communities shall be designed to be compact, contain a mixture of land uses, and be walkable. MDP (D6) Md. Code Ann., St. Fin. & Proc. §§ 5-7A-01 to -02.