

JOINT BASE ANACOSTIA-BOLLING MASTER PLAN

Environmental Assessment

Final

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Environmental Assessment
for
Joint Base Anacostia-Bolling Master Plan
District of Columbia

August 31, 2010

Abstract

This environmental assessment (EA) evaluates the potential impacts on the human and natural environments of implementing the Joint Base Master Plan at Joint Base Anacostia-Bolling in the District of Columbia. The proposed action is to implement the new Joint Base Master Plan at Joint Base Anacostia-Bolling, thereby optimizing a newly formed Joint Base into a single-functioning installation to further the purpose of the 2005 BRAC mandate. More specifically, it fulfills the guidance provided by Department of Defense (Supplemental Guidance for Implementing and Operating a Joint Base for Real Property Matters, dated 15 April 2008) to develop a Joint Base Installation Master Plan. In addition to the No Action Alternative, two alternatives are considered in the EA: the No Master Plan Alternative and the Joint Base Master Plan Alternative (preferred). Neither action would result in significant adverse impacts on the human environment. Preparation of an environmental impact statement is not required.

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Executive Summary

This environmental assessment (EA) has been prepared pursuant to Section 102 (2) (c) of the National Environmental Policy Act (NEPA) (42 USC 4331 et seq.), the regulations issued by the President's Council on Environmental Quality (CEQ) for implementing the procedural provisions of NEPA (40 CFR 1500-1508), and the Department of the Navy's NEPA procedures contained in 32 CFR 775.

ES.1 Proposed Action

The proposed action is to implement the new Joint Base Master Plan at Joint Base Anacostia-Bolling, thereby optimizing a newly formed Joint Base into a single-functioning installation to further the purpose of the 2005 BRAC mandate. More specifically it fulfills the guidance provided by the Department of Defense (Supplemental Guidance for Implementing and Operating a Joint Base for Real Property Matters, dated 15 April 2008) to develop a Joint Base Installation Master Plan. These two installations will become one physical and administrative Joint Base as of 1 October 2010.

The Joint Base Master Plan consists primarily of a new consolidated land use plan with an associated urban design framework which provides direction to guide future development. The proposed Master Plan does not provide a schedule of development projects nor does it include a specific list of construction and demolition projects. The Master Plan does assume potential new personnel growth (25 percent) over the next 10 years associated with its implementation; however, the growth is by no means exact or guaranteed to happen. This 25 percent growth is in addition to three known planned or anticipated Joint Base projects with associated employee growth (discussed under ES3.3), that are expected regardless of the Master Plan's adoption and implementation. However, if and when new facility projects are eventually developed as a result of this Master Plan, Joint Base Anacostia-Bolling may site them using the general guidance of the Master Plan's land use concepts and design framework. Implementation of future site projects would still require full compliance with the National Environmental Policy Act (NEPA) process when those projects are identified and designed.

ES.2 Purpose and Need

The purpose and need for the proposed action is to comply with the Department of Defense (DoD) Supplemental Guidance for Implementing and Operating a Joint Base for Real Property Matters, dated 15 April 2008, that was in response to the Base Realignment and Closure (BRAC) Act of 2005. One of the BRAC recommendations called for the unification of Naval Support Facility (NSF) Anacostia and Bolling Air Force Base (AFB) located in Washington D.C. The intent of this decision was to develop more cost effective operations, maintain and jointly use existing and new facilities with enhanced quality of life for service men and women, and promote recruiting and retention advantages. The DoD Supplemental Guidance specifically directed joint bases to develop a Joint Base Installation Master Plan.

Prior to becoming a Joint Base, each separate installation has operated more or less self-sufficiently with several functions duplicated between the two installations. The Master Plan is intended to provide future guidance for the development and re-development of the facility as a single, unified installation in terms of land use and urban design.

ES.3 Alternatives

ES.3.1 Reasonableness Criteria and ES.3.2 Alternatives Considered but Dismissed

Due to the iterative, refining nature of the master planning process and the general guidance provided by the Proposed Action, reasonableness criteria were not established by Naval Support Activity Washington in order to dismiss other alternatives. Multiple alternatives were considered for land use configuration on the installation. These ideas were explored and altered, based on a number of factors including: stakeholder input, land use constraints, mission needs, the feasibility of the proposed action, and transportation and sustainability goals. This process has resulted in successive variations of land use concepts since project initiation in 2008 that ultimately led to the identification of one alternative—the Joint Base Master Plan Alternative—as the preferred alternative because it balances existing base constraints with meeting future installation objectives. The No Action Alternative and two action alternatives were carried forward for full impact analysis.

ES.3.3 Alternatives Considered in the EA

No Action Alternative: Under this alternative, Joint Base Anacostia-Bolling is administratively joined by 1 October 2010 and the anticipated base personnel growth from the relocation of NCR personnel from leased facilities, JADOC and NSMA to the installation would take place as previously planned (these projects are described below). The installation would continue to operate as at present.

- National Capital Region (NCR) Air Force personnel relocations: As a corollary to the 2005 BRAC law, a net gain of 500 Air Force personnel is expected to relocate from leased office space in Arlington, VA to existing facilities on Bolling AFB. The relocation process is in progress.
- Joint Air Defense Operation Center (JADOC): In support of regional national defense initiatives and increased post-9/11 security requirements, approximately 200 additional personnel are expected to relocate to a new facility on Bolling AFB. A preliminary site has been selected and an environmental assessment has been produced.
- Naval Support Management Activity (NSMA): In fulfillment of the 2005 BRAC mandate, approximately 800 personnel will relocate from leased office space in Arlington, VA to a new office building and warehouse on NSF Anacostia. The final environmental assessment for this facility was submitted to NCPC in October 2009 and the Navy has signed a Finding of No Significant Impact (NSMA) for the project.

No Master Plan Alternative: Under this alternative, the anticipated base personnel growth from the relocation of NCR leased facility personnel, JADOC and NSMA would take place as previously planned. Furthermore, an additional 25 percent of general base growth is projected to occur over the next 10 years. However, under this alternative there would be no change in the planning considerations or process currently employed to site facilities on the base. Nor would there be a new comprehensive vision to help guide the placement of future facilities on the installation, and their design. Various functions would remain scattered throughout the two legacy installations—such as two gymnasiums and dispersed bachelor enlisted housing—continuing present inefficiencies. There would be no effort to consolidate related functions and no intent to create dense, walkable administrative and community nodes which could more easily be serviced by transit.

Joint Base Master Plan Alternative (preferred): Under this alternative, the anticipated base personnel growth from the relocation of NCR leased facility personnel, JADOC and NSMA would take place as previously planned. Furthermore, an additional 25 percent of general base growth is projected to occur over the next 10 years. However, this alternative would provide a Joint Base Master Plan that consists primarily of a new consolidated land use plan with 11 functional use zones and an associated urban design framework which provides direction on how to guide future development. This is the preferred alternative because it would: (1) meet mission needs, (2) achieve the stated plan objectives, (3) provide the policy direction needed to guide quality installation development, and (4) fulfill the specific guidance provided by the DoD to develop a Joint Base Installation Master Plan.

This alternative does not include a schedule of planned projects (construction or demolition) associated with it; this alternative is solely a guiding policy framework for the future. Implementation of future site projects would undertake the NEPA process when the parameters of those projects are established and the impacts of the projects are measurable.

ES.4 Impacts

ES.4.1 No Action Alternative

Under the No Action Alternative, there would be no changes to existing conditions on the Joint Base aside from those three identified projects (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA.

ES.4.2 No Master Plan Alternative

Community Resources: Implementation of the No Master Plan Alternative would result in changes to land use but the specific impacts would be difficult to predict since buildings would continue to be sited on an as-needed basis without reference to a comprehensive vision for the Joint Base. There would be no change in the planning process or considerations currently used to site facilities on base; therefore it is likely facilities would continue to be sited on a case-by-case basis in areas with available greenfield space.

The No Master Plan Alternative would not necessarily prevent the implementation of any planning policy—such as the *Comprehensive Plan for the National Capital: Federal Elements*—the achievement of any planning initiative or the completion of any current project within the immediate plan area; however, it would not actively support or promote any of these area policies initiatives or projects, either.

Cultural Resources: Implementation of the No Master Plan Alternative would result in the potential for effects on archaeological resources, although the specific impacts are difficult to predict at this time because specific projects have not been developed. Generally, the construction of new facilities or demolition of older facilities would result in ground disturbance. On NSF Anacostia, there is little chance for adverse effects, but on Bolling AFB and Bellevue archaeological sites are known to exist and there is the potential for additional discovery. The Navy would consult with the District of Columbia Historic Preservation Office (DCHPO) prior to construction and demolition activities to determine the appropriate level of investigation for archaeological resources. If archaeological artifacts or skeletal remains were uncovered by construction activities, work would stop immediately and the Navy would consult further with DCHPO and other parties, as appropriate.

A National Register of Historic Places (NRHP)-eligible Historic District is present on Bolling AFB and two anticipated NRHP-eligible buildings are present on NSF Anacostia. The No Master Plan Alternative would result in the potential for effects on historic resources, although the specific impacts cannot be predicted at this time because they would depend on future projects that have not been developed. Generally, the construction of new facilities or demolition of older facilities would result in impacts to historic resources if the construction occurred in and around those NRHP-eligible structures. The Navy would consult with DCHPO during the planning for and prior to construction of any future buildings to determine the appropriate level of investigation for historic resources.

Implementation of the No Master Plan Alternative would result in minor to moderate short-term visual impacts and minor to beneficial long-term impacts on visual resources—depending on the facilities sited and designed. The No Master Plan Alternative would result in future base facilities and infrastructure sited on a project-by-project basis without a comprehensive, long-term vision for their appropriate location, height or consistent design. The Navy would consult with review agencies such as the U.S. Commission of Fine Arts (CFA) and National Capital Planning Commission (NCPC) during the conceptual design phase of facilities to determine the appropriate level of recommendations for visual resources.

Transportation: Implementation of the No Master Plan Alternative would result in a 27 percent net increase over current levels of vehicles accessing or exiting the base during morning and afternoon peak hours. However, under this alternative there is no comprehensive Transportation Management Plan (TMP) for the Joint Base to help with vehicle trip reduction and the facilitation of transportation alternatives among base users at the installation. Assuming no additional employee parking would be built under this scenario (which is not a guarantee) then the current parking ratio of 1:1.66 (spaces per person) would improve to 1: 2.23 (spaces per person). However, facilities would continue to be sited on a project-by-project basis, diminishing the opportunity for a fundamental change on the Joint Base through a new development approach.

Physical and Natural Resources: Under the No Master Plan Alternative there would be potential effects on geology, topography and soils due to construction of new facilities or demolition of older facilities. The soils present on the Joint Base, particularly on NSF Anacostia, may require special foundation design and any new projects disturbing more than 50 square feet of land would require the preparation of an erosion and sediment control plan to be reviewed and approved by the D.C. Department of Environment. Furthermore, due to the potential change in the floodplain designation of the land NSF Anacostia occupies from a 500-year floodplain to a 100-year floodplain, additional measures may be required to minimize potential flood damage to new base facilities through the use of new techniques in the siting, design and construction of such facilities. Techniques could include elevating as much of the building as possible above the flood level, using the lower building level(s) for uninhabited uses such as parking and using flood-damage-resistant materials.

Utilities/Infrastructure: Implementation of the No Master Plan Alternative would result in impacts to primary utilities such as water, wastewater, electricity and natural gas, although the specific impacts would be difficult to predict at this time since new projects have not been planned and designed. While the supplies for these utilities are generally considered adequate, all the primary utilities except for natural gas are presently in need of some form of infrastructure upgrades on the installation. However, under this alternative, facilities would continue to be sited on a case-by-case basis and opportunities to introduce energy conservation measures or “greener” stormwater management measures would rely entirely on individual project

implementation efforts. The Navy would study the adequacy of existing utility infrastructure following the administrative join date and establish a program for needed upgrades and efficiencies as well as coordinate with the appropriate agencies and authorities on any preconstruction surveys that are necessary for projects. The Navy would incorporate energy conservation strategies and Low-Impact Development (LID) techniques into future facilities and site planning, as well as prepare stormwater management plans prior to the disturbance of more than 5,000 square feet of land for a project, per D.C. regulations.

Air Quality: Implementation of the No Master Plan Alternative would result in impacts on existing air quality conditions due to anticipated base growth, although the specific impacts are difficult to predict at this time due to the lack of projects planned. Generally, an increase in base population would produce the need for additional facilities and an increase in stationary emissions as well as mobile emissions from additional vehicles accessing the base. This Alternative does not have the benefit of a Transportation Management Plan to help minimize the impacts of vehicle travel and facilitate alternative modes of transportation that would reduce air pollutants.

Noise: There would be minor impacts on ambient noise levels under the No Master Plan Alternative.

ES.4.3 Joint Base Master Plan Alternative (Preferred)

Community Resources: Implementation of the Joint Base Master Plan Alternative would result in changes to land use on the installation. However, these changes are expected to be beneficial by concentrating similar or complimentary functions in clustered facilities within eight functional use areas—increasing the density in concentrated nodes and introducing a more walkable and transit-oriented pattern of development.

The Joint Base Master Plan supports the goals of the *Comprehensive Plan for the National Capital: Federal Elements*. It would have no adverse effect on ongoing plans, initiatives, and projects at the base or in its vicinity with the exception of one: South Capitol Street Corridor Improvements and Frederick Douglas Memorial Bridge Realignment. Without a modification(s), or agreement between entities, full build-out of the North Administrative Mission Complex envisioned for the northern tip of NSF Anacostia would be incompatible with plans to realign the bridge—a plan that would require the use of land that is currently Navy property.

Cultural Resources: Implementation of the Joint Base Master Plan Alternative would result in the potential for effects on archaeological resources, although the specific impacts are difficult to predict at this time because specific projects have not been developed. Generally, the construction of new facilities or demolition of older facilities would result in ground disturbance. On NSF Anacostia, there is little chance for adverse effects, but on Bolling AFB and Bellevue archaeological sites are known to exist and there is the potential for additional discovery. The Navy would consult with the District of Columbia Historic Preservation Office (DCHPO) prior to construction and demolition activities to determine the appropriate level of investigation for archaeological resources. If archaeological artifacts or skeletal remains were uncovered by construction activities, work would stop immediately and the Navy would consult further with DCHPO and other parties, as appropriate.

A National Register of Historic Places (NRHP)-eligible Historic District is present on Bolling AFB and two anticipated NRHP-eligible buildings are present on NSF Anacostia. The No Master Plan Alternative would result in the potential for effects on historic resources, although the

specific impacts cannot be predicted at this time because they would depend on future projects that have not been developed. Generally, the construction of new facilities or demolition of older facilities would result in impacts to historic resources if the construction occurred in and around those NRHP-eligible structures. The Joint Base Master Plan Alternative emphasizes the enhancement of the Town Center area on Bolling, so direct and indirect effects on the NRHP-eligible Bolling AFB Historic District are possible. The Navy would consult with DCHPO during the planning for and prior to construction of any future buildings to determine the appropriate level of investigation for historic resources.

Implementation of the Joint Base Master Plan Alternative would result in minor to moderate short-term visual impacts and beneficial long-term impacts on visual resources. Under the Joint Base Master Plan Alternative, the north end of the installation would experience the most significant long-term visual change due to a greater concentration of development, such as an Administrative Complex. However, the introduction of orderly land use and an urban design framework will result in a beneficial impact to the overall visual appearance of the base. The Navy would consult with review agencies such as the U.S. Commission of Fine Arts (CFA) and National Capital Planning Commission (NCPC) during the conceptual design phase of facilities to determine the appropriate level of recommendations for visual resources.

Transportation: Implementation of the Joint Base Master Plan Alternative would result in a 27 percent net increase over current levels of vehicles accessing or exiting the base during morning and afternoon peak hours. Under this alternative the increase would be mitigated by the implementation of the Master Plan-associated Joint Base Anacostia-Bolling Transportation Management Plan (TMP)—a comprehensive TMP that will provide a targeted framework for vehicle trip reduction and the facilitation of transportation alternatives among base users at the installation. No additional employee parking would be built under this scenario (space will only be consolidated or removed) and the current parking ratio of 1:1.66 (spaces per person) would improve to 1: 2.42 (spaces per person). While this falls short of the NCPC guidelines of 1:4 for this area of Washington D.C., it is an improved future parking scenario as the base moves into a new stage of development.

Physical and Natural Resources: Under the Joint Base Master Plan Alternative there would be potential effects on geology, topography and soils due to construction of new facilities or demolition of older facilities. The soils present on the Joint Base, particularly on NSF Anacostia, may require special foundation design and any new projects disturbing more than 50 square feet of land would require the preparation of an erosion and sediment control plan to be reviewed and approved by the D.C. Department of Environment. Furthermore, due to the potential change in the floodplain designation of the land NSF Anacostia occupies from a 500-year floodplain to a 100-year floodplain, additional measures may be required to minimize potential flood damage to new base facilities through the use of new techniques in the siting, design and construction of such facilities. Techniques could include elevating as much of the building as possible above the flood level, using the lower building level(s) for uninhabited uses such as parking and using flood-damage-resistant materials.

Utilities/Infrastructure: Implementation of the Joint Base Master Plan Alternative would result in impacts to primary utilities such as water, wastewater, electricity and natural gas, although the specific impacts would be difficult to predict at this time since new projects have not been planned and designed. While the supplies for these utilities are generally considered adequate, all the primary utilities except for natural gas are presently in need of some form of infrastructure upgrades on the installation. Under this alternative there would be a comprehensive guiding vision to strategically direct future growth, encourage quality design and integrate new

sustainability strategies on base to lessen the installation's traditional energy and resource demands. The Navy would study the adequacy of existing utility infrastructure following the administrative join date and establish a program for needed upgrades and efficiencies as well as coordinate with the appropriate agencies and authorities on any preconstruction surveys that are necessary for projects. The Navy would incorporate energy conservation strategies and Low-Impact Development (LID) techniques into future facilities and site planning, as well as prepare stormwater management plans prior to the disturbance of more than 5,000 square feet of land for a project, per D.C. regulations.

Air Quality: Implementation of the Joint Base Master Plan Alternative would result in impacts on existing air quality conditions due to the anticipated base growth, although the specific impacts are difficult to predict at this time due to the lack of projects planned. Generally, an increase in base population would produce the need for additional facilities and an increase in stationary emissions as well as mobile emissions from additional vehicles accessing the base. However, this Alternative would minimize these impacts through a comprehensive Transportation Management Plan to reduce single-occupant vehicle travel and facilitate alternative modes of transportation to/from and around the installation. Furthermore, this alternative would come with a future land use plan and design framework to steer facilities to appropriate co-locations with similar uses and increase internal connectivity through additional linkages for bicyclists, pedestrians and mass transit users.

Noise: There would be minor impacts on ambient noise levels under the Joint Base Master Plan Alternative. However, two notable changes that could influence the location of noise generators relate to the relocation of two key facilities. The Air Force helipad would be relocated from a site in the middle of the base to an area in the south near family housing. The helipad is used infrequently so any effects would mainly be nuisance noise for residents on occasion. The truck inspection area at the South Gate would be moved to the Firth Sterling Gate in the north in order to meet anti-terrorism force protection standards and position the gate closer to the destination of many trucks without having trucks transverse the entire length of the base. This area currently features a number of light industrial functions so there should be no significant impact on noise levels, and it may actually reduce noise on the base by limiting internal circulation of truck traffic.

ES.5. Conclusion

Based on the analyses contained in the EA, implementation of the Joint Base Master Plan under either the No Master Plan Alternative or the Joint Base Master Plan Alternative (preferred) would not result in significant adverse impacts on the human environment. Preparation of an EIS is not required. However, when future projects are identified for the Joint Base, they should undergo individual environmental reviews using the NEPA process.

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Acronyms and Abbreviations List

ACHP	Advisory Council on Historic Preservation
ADT	Annual Daily Traffic
AT/FP	Anti-Terrorism / Force Protection
AWI	Anacostia Waterfront Initiative
BAFB	Bolling Air Force Base
BPWWTP	Blue Plains Wastewater Treatment Plant
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CDC	Child Development Center
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFA	Commission of Fine Arts
CT	Census Tract
dB	Decibel
DC	District of Columbia
DCHPO	District of Columbia Historic Preservation Office
DCOP	District of Columbia Office of Planning
DCWASA	District of Columbia Water and Sewer Authority
DDOE	District of Columbia Department of Environment
DDOT	District of Columbia Department of Transportation
DHS	U.S. Department of Homeland Security
DIA	Defense Intelligence Agency
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ESA	Endangered Species Act
ESPC	Energy Savings Performance Contract
FEMA	Federal Emergency Management Administration
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GIS	Geographic Information Systems
GSA	U.S. General Services Administration
HTHW	High Temperature Hot Water
IRP	Installation Restoration Program
JADOC	Joint Air Defense Operation Center
LID	Low-Impact Development/Design
LOS	Level of Service
LQG	Large Quantity Generator
MTA	Maryland Transit Authority
MWCOG	Metropolitan Washington Council of Governments
NAAQS	National Ambient Air Quality Standards
NAVFAC	Naval Facilities Engineering Command
NCPC	National Capital Planning Commission
NCR	National Capital Region
NDW	Naval District Washington

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxide
NRHP	National Register of Historic Places
NRL	Naval Research Lab
NSA	Naval Support Activity
NSF	Naval Support Facility
NSMA	Naval Support Management Activity
O ₃	Ozone
PEPCO	Potomac Electric Power Company
PM	Particulate Matter
SARA	Superfund Amendments and Reauthorization Act
TMP	Transportation Management Plan (or Program)
USAF	United States Air Force
WMATA	Washington Metropolitan Area Transit Authority

1.0 PURPOSE AND NEED FOR AN ENVIRONMENTAL ASSESSMENT

This Environmental Assessment (EA) evaluates the impacts on the human environment of the implementation of the Joint Base Anacostia-Bolling Master Plan on Joint Base Anacostia-Bolling in Washington, D.C. The proposed Master Plan has been developed in compliance with Department of Defense (DoD) Supplemental Guidance for Implementing and Operating a Joint Base for Real Property Matters, dated 15 April 2008, that was in response to the Base Realignment and Closure (BRAC) Act of 2005. The EA has been prepared pursuant to Section 102 (2)(C) of the National Environmental Policy Act (NEPA) (42 USC 4331 et seq.), the regulations issued by the President's Council on Environmental Quality (CEQ) for implementing the procedural provisions of NEPA (40 CFR 1500-1508), and the Department of the Navy's NEPA procedures contained in 32 CFR 775. Naval Facilities Engineering Command (NAVFAC) Washington is the lead agency, responsible for the preparation of this EA under NEPA.

1.1 BACKGROUND AND INTRODUCTION

In September 2005, the Base Realignment and Closure (BRAC) Commission issued its final recommendations to the President of the United States, following the commission's review of the Secretary of Defense's recommendations. The President approved the recommendations and forwarded them to Congress for consideration. In November 2005, Congress approved the recommendations and they became law (Defense Base Closure and Realignment Act – Public Law 101-510, as amended). One of the BRAC recommendations called for the unification of Naval Support Facility (NSF) Anacostia and Bolling Air Force Base (AFB) located in Washington D.C. The intent of this decision was to develop more cost effective operations, maintain and jointly use existing and new facilities with enhanced quality of life for service men and women, promote recruiting and retention advantages. Currently the base supports approximately 13,200 base employees between the two installations.

Following the law's passage, the Office of the Under Secretary of Defense for Installations and Environment (OSD I&E) issued several guidance memos on the pursuit of joint basing efforts, one of which was the Department of Defense (DoD) Supplemental Guidance for Implementing and Operating a Joint Base for Real Property Matters, dated 15 April 2008. This guidance specifically directed joint bases to develop a Joint Base Installation Master Plan.

To comply with this guidance, Naval Facilities Engineering Command (NAVFAC) Washington—representing the Supporting Command, Naval Support Activity (NSA) Washington—initiated the master planning process for the Joint Base Anacostia-Bolling Master Plan (also referred to as the “Joint Base Master Plan” or “Master Plan”). As of the time of this writing, the two bases are still separate entities, not to be officially joined as one until 1 Oct 2010. In light of this state of transition, the primary purpose of the Master Plan is to provide a land use and urban design framework to guide future development. Any future construction projects will need to be re-evaluated and re-programmed for new Joint Base requirements following the official joint date.

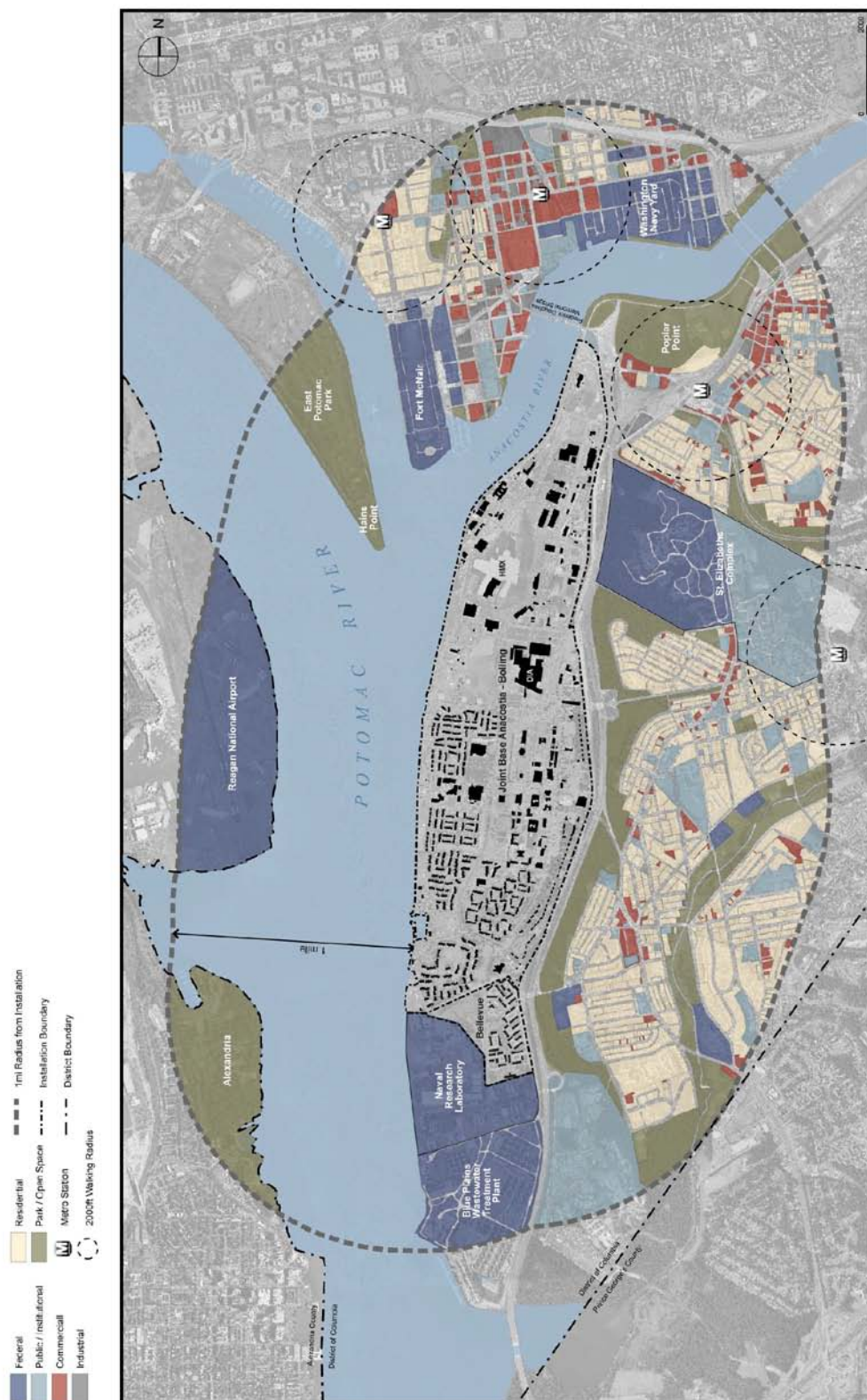
There are three projects that are expected to occur regardless of the Master Plan's adoption and implementation and they are currently undergoing or will need to undergo individual environmental review. Specifically, these projects include: the construction of the Naval Support Management Activity (NSMA) office and warehouse with 800 expected personnel on NSF Anacostia, the construction of the Joint Air Defense Operation Center (JADOC) with 200 expected personnel on Bolling AFB, and the expected net gain of 500 Air Force National Capital

50 Region (NCR) employees due to their relocation from leased office space to existing base
51 facilities. These three projects are detailed in a later section.

52
53 This EA makes frequent reference to Joint Base Anacostia-Bolling as the eventual consolidated
54 installation but acknowledges they are currently two separate installations.

55 56 **1.1.1 OVERVIEW OF THE MASTER PLAN AREA**

57
58 The Joint Base Master Plan area consists of approximately 905 acres of DoD property, bounded
59 on the west by the Anacostia River, on the east by South Capitol Street and Interstate 295 (I-
60 295) and on the south by the Naval Research Laboratory (see Figure 1). On the northern end is
61 the legacy Navy portion of the installation, NSF Anacostia. On the southern end is the legacy
62 Air Force portion, Bolling AFB. The installations have physically operated in a joint manner
63 sharing a perimeter fence and entry gates, even if administratively they have operated
64 separately. However, to comply with the 2005 BRAC Act, these two installations are to combine
65 to form one Joint Base Anacostia-Bolling with management under Naval District Washington
66 (NDW).
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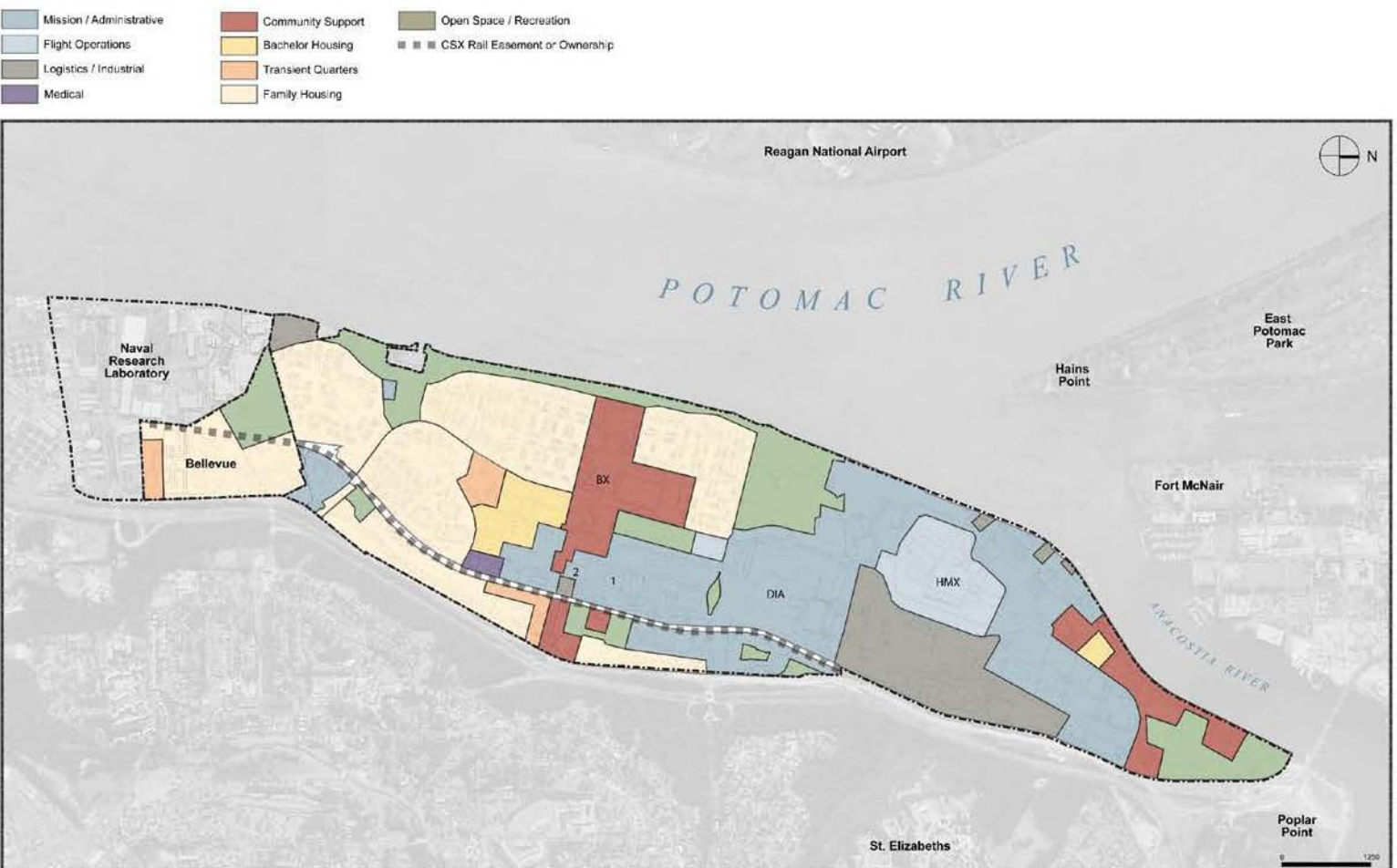


The Joint Base Master Plan area contains 259 buildings and 4.6 million square feet. The largest structure, the Defense Intelligence Agency (DIA) facility, has approximately 850,000 square feet of space. There are approximately 13,200 people who work on Joint Base Anacostia-Bolling and 7,980 parking spaces for commuters across the base.

Currently, the north end of Joint Base Anacostia-Bolling (the NSF Anacostia side) is used primarily for light industrial purposes along with mission/administrative functions. There are small, community service functions scattered in parts of the northern portion such as a galley, visitors center and child development center. Unaccompanied housing for enlisted bachelors and outdoor recreation are also present on NSF Anacostia. Airfield operations consist of HMX-1 helicopter operations, the Executive Flight Detachment for the President.

A concentration of community service functions exists on the southern portion of the Joint Base (the Bolling AFB side). Some of these functions include a commissary, base exchange, visitors center and child development center. Comingled within and around this community area are mission/administrative functions such as a post office, housing office or the 11th Wing headquarters. The Bolling AFB side also contains all the military family housing on Joint Base Anacostia-Bolling and some open space/recreation land uses along the shoreline. There is a small, mid-installation helicopter pad on the Bolling AFB side near the intersection of MacDill Boulevard and Chappie James Boulevard/Defense Boulevard. See Figure 2 for a depiction of existing land use.

Figure 2: Joint Base Anacostia-Bolling Existing Land Use Map



1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose and need for the proposed Master Plan is to comply with the specific guidance provided by the DoD (Supplemental Guidance for Implementing and Operating a Joint Base for Real Property Matters, dated 15 April 2008) to develop a Joint Base Installation Master Plan.

Prior to becoming a joint base, each separate installation has operated more or less self-sufficiently with several functions duplicated between the two installations. The Master Plan is intended to provide future guidance for the development and re-development of the facility as a single, unified installation in terms of land use and urban design.

1.3 THE NEPA PROCESS

The National Environmental Policy Act provides for the consideration of environmental issues in Federal agency planning and decision-making in the undertaking of a project. Under NEPA, Federal agencies must prepare an Environmental Impact Statement (EIS) or an Environmental Assessment (EA) for any Federal action, except those actions that are determined to be "categorically excluded." An EIS is prepared for those actions that may significantly affect the quality of the human environment. An EA is prepared as a concise public document that serves to provide sufficient evidence and analysis for determining whether to prepare a more detailed EIS. The EA includes brief discussions of the following elements: (1) the need for the proposal; (2) the alternatives; (3) the environmental impacts of the proposed action and alternatives. The EA results in either a Finding of No Significant Impact (FONSI) or a decision to prepare an EIS. If, based on this EA, the Navy determines that the proposed action would have no significant impacts on the quality of the human environment, a FONSI will be issued. If the Navy determines that the proposed action would have a significant impact on the quality of the human environment, preparation of an EIS will be initiated.

1.4 AGENCY COORDINATION / PUBLIC OUTREACH

The preparation of the Joint Base Master Plan involved meeting with agencies and or reviewing their development plans to identify issues that need to be addressed in the Master Plan. The agencies and or plans that were consulted as part of the Joint Base Master Plan process include: National Capital Planning Commission (NCPC), U.S. Commission of Fine Arts (CFA), District Department of Transportation (DDOT), District of Columbia Water and Sewer Authority (DC WATER), District of Columbia Historic Preservation Office (DCHPO), District of Columbia Office of Planning (DCOP), District of Columbia Department of the Environment (DDOE), the U.S. General Services Administration (GSA) and U.S. Department of Homeland Security (DHS).

In addition, meetings were held with City Council Members and the Advisory Neighborhood Commission. A Public Open House was held at the Petey Green Center in Anacostia. The Open House was attended by Navy and Air Force leadership and provided visitors with a series of informative displays outlining various aspects of the Joint Base Anacostia-Bolling Master Plan.

Throughout the public outreach process, comments were received and addressed.

See Section 7.2 for the timeline of public meetings and Section 7.3 for a list of public comments received.

1.5 ISSUES AND IMPACT TOPICS CONSIDERED

This Environmental Assessment has been prepared to evaluate the potential impacts the proposed Master Plan would generally have on a range of natural, physical and man-made resources in the study area. It was determined the areas of consideration would include:

- **Community Resources** (land use patterns, planning policies, waterfront access): The overall use of Joint Base Anacostia-Bolling would not change. However, the installation would eventually feature a new land use configuration, including clusters based on similarity of functions or relationships. This new direction would have potential impacts on community resources that will be generally evaluated in the EA.
- **Cultural Resources** (archaeological, historic, and visual resources): The installation contains prehistoric resources, historic buildings and features views from public places across the Anacostia and Potomac Rivers due to its location on the Anacostia River close to where it joins the Potomac River. The proposed Master Plan's land use and urban design framework would have potential impacts on these resources that will be generally evaluated in the EA.
- **Transportation** (roadways and traffic, parking, public transportation, pedestrian/bicycle circulation, air transportation): The proposed Master Plan emphasizes internal transportation improvements and increased commuter choices. This new direction would have potential impacts on transportation that will be generally evaluated in the EA.
- **Physical and Natural Resources** (geology, topography and soils, shoreline, floodplain): The proposed Master Plan calls for land use consolidation and increased densification on the northern portion of the installation. This action would have potential impacts on physical and natural resources, and the conditions of these resources would influence development, which will be generally evaluated in the EA.
- **Utilities/Infrastructure** (utilities, energy conservation, stormwater management, hazardous materials and waste): This proposed Master Plan anticipates potential growth and incorporates a greater emphasis on sustainability and low-impact development design techniques to manage stormwater on base and promote energy conservation. This new direction would have potential impacts on utilities/infrastructure that will be generally evaluated in the EA.
- **Air Quality**: As a part of the Washington D.C. Metropolitan area, Joint Base Anacostia-Bolling has a role in the region's non-attainment status for National Ambient Air Quality Standards. The proposed Master Plan anticipates potential growth; however, land use reconfiguration and commuting patterns by base users would have potential impacts on this resource as well. This new direction will be generally evaluated in the EA.
- **Noise**: This proposed Master Plan may guide new development taking place on the installation. Such development would have potential impacts on noise levels. This issue will be generally evaluated in the EA.

1.6 ISSUES ELIMINATED FROM DETAILED STUDY

Several issues were initially considered for evaluation in this EA, but they were eliminated from detailed study because there would be no known impacts or the impacts would be negligible. These issues, and the rationale for their elimination, are as follows:

- **Economic and Fiscal Resources**: The proposed Master Plan is a guiding document for future development but it is not a definitive blueprint for future development. Until

specific projects are undertaken there is no knowing beyond speculation what the impacts on economic activity in the area might entail. Nor would the proposed Master Plan impact local tax revenues. Thus, this resource area was dismissed from detailed study.

- **Demographics and Environmental Justice:** Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires Federal agencies to take appropriate and necessary steps, to the greatest extent practicable and permitted by law, to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and low-income populations. Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, directs Federal agencies to identify and assess risks to child health and safety from proposed actions that have the potential to disproportionately affect children. The proposed Master Plan area is located in Ward 8 of Washington D.C., in an identified Environmental Justice community as determined by the October 2009 NSMA Environmental Assessment. The census tracts (CTs) directly east of the Joint Base and across I-295 (CT 74.01, CT 98.09, CT 73.02, CT 98.07) are home to a large majority of African-Americans and also a higher proportion of children and youths under 18 years of age. Economic data also indicate that the population in the CTs near the Joint Base is substantially poorer than the District as a whole. However, due to the project's location (separated from non-military residential areas by fences, I-295 and park land), its role as a self-contained military base, and the very general nature of the proposed land use and urban design framework, the action would not directly affect the resident populations of the census tracts nearby. The proposed Master Plan would not change the demographic composition of the site or surrounding area. Thus, the proposed action would not have disproportionately high and adverse effects on the existing environmental justice community or on children.
- **Vegetation and Wildlife:** Past land filling, construction of flood control structures along the rivers, and construction of buildings and pavement on the installation have resulted in the loss of most native vegetation and wildlife. Wildlife in the study area is largely limited to species commonly found along urban waterways, such as rats, sea gulls, house sparrows, starlings, and pigeons. Some use of the installation by native birds other than sea gulls is likely but limited by the lack of suitable habitat. Most trees and shrubs are the result of landscaping. According to recent studies such as the Bolling AFB General Plan and October 2009 NSMA EA there are no species protected under the Endangered Species Act (ESA) known to occur on the Joint Base. Shortnose sturgeon (*Acipenser brevirostrum*), listed as endangered, occurs in the Potomac River and may occur in the Anacostia River, adjacent to the installation, but the proposed action would have no direct impact on the rivers, except to reduce stormwater runoff and indirectly improve the quality of water entering the rivers. Amphipods (such as *Stygobromus phraeticus*) may occur sporadically in groundwater along the Anacostia and Potomac Rivers and up major tributaries, but none have been found on the Joint Base and they are unlikely to occur given the fact the area is a floodplain and the land is disturbed. Amphipods favor upland forests where the soil has not been overly disturbed. A letter regarding the presence of threatened or endangered species on Anacostia-Bolling was sent to the U.S. Fish and Wildlife Services on April 6, 2010; No written response was received advising there were sensitive species present. The letter to the agency is found in the Appendix. Therefore, this resource issue was dismissed from detailed study.
- **Wetlands:** According to the National Wetlands Inventory there are no vegetated wetlands on the installation. Therefore, impacts to wetlands are unlikely and this resource issue was dismissed from detailed study. Future project areas will be

investigated to make sure that wetlands too small or too new to show up on the National Wetlands Inventory are evaluated.

2.0 PROPOSED ACTION AND ALTERNATIVES

The Council on Environmental Quality's (CEQ) regulations for implementing NEPA call for the identification and assessment of reasonable alternatives to proposed actions that will avoid or minimize adverse impacts upon the quality of the human environment (40 CFR 1500.2[e]). This chapter describes the master planning process, the proposed action and the alternatives considered by the Navy to meet its purpose and need.

2.1 PROPOSED ACTION AND ALTERNATIVES

The proposed action is to implement the new Joint Base Master Plan at Joint Base Anacostia-Bolling, thereby optimizing a newly formed Joint Base into a single-functioning installation to further the purpose of the 2005 BRAC mandate. It also fulfills the specific guidance provided by DoD (Supplemental Guidance for Implementing and Operating a Joint Base for Real Property Matters, dated 15 April 2008) to develop a Joint Base Installation Master Plan.

The new base area would consist of approximately 905 acres of DoD property. The proposed Master Plan has been developed with consideration for the objectives outlined below.

Joint Base Master Plan Objectives:

- **Land Use:** Create a comprehensive land use plan to provide the framework for future development.
- **Mission Efficiency:** Gather similar and related functions, such as enlisted housing, together.
- **Emerging Functions:** Provide strategies for potential development of new and consolidated functions.
- **Unity:** Give attention to elements that will physically unify the two legacy installations.
- **Circulation:** Coordinate improvements in vehicular and pedestrian movement, public transit, and parking with any growth development to enhance overall site circulation, efficiency, and pedestrian and visitor wayfinding.
- **Parking:** Optimize parking locations in order to reduce excess parking areas.
- **Transit:** Optimize development density and location in order to facilitate the evolution of full transit services such as bus and rail on the base.
- **Historic Resources:** Protect historic buildings on base and enhance the historic district on Bolling AFB.
- **Visual Resources:** Improve views of the installation from the surrounding community.
- **Sustainability:** Strive to make up-front investments towards sustainability objectives in future planning and development efforts.
- **Low-Impact Development (LID):** Incorporate LID techniques throughout the installation to reduce the negative effects of stormwater on base.
- **Riverfront:** Protect and enhance the waterfront greenway.

The Joint Base Master Plan primarily makes a number of land use recommendations defining eight functional use zones. Currently, these areas are found between the two installations,

scattered throughout the combined area. They would be consolidated as follows and are indicated on Figure 3:

Proposed Land Use Improvements Recommended by the Joint Base Master Plan:

- **Mission/Administrative:** These areas exist throughout the two bases and would likely continue to exist as several nodes. The Master Plan calls for one node on Bolling and two nodes on Anacostia, emphasizing increased density and definition of these areas. This would create several benefits. One, a denser clustering of office spaces where the preponderance of employees work would enable more efficient base transit systems to function. Second, it would promote a more efficient infrastructure distribution. Third, it would define the administrative areas and make them places in which it is feasible and desirable to walk, decreasing the need to use cars for every trip and enhancing the quality of life for personnel on base. The northernmost area of Joint Base Anacostia-Bolling would be appropriate for a unique, high-density Mission/Administrative complex. The land is currently underutilized, and in light of Naval District Washington's growth potential, can offer some relief to a space-constricted Washington Navy Yard. The area would be a new mixed use, higher-rise office complex with community support functions for the workers, such as food service. Redevelopment of this parcel would meet critical mission demands and enable the highest possible use of the Joint Base's land resources.
- **Airfield Operations:** There are two separate air operations areas and they would need to remain separate to prevent conflict of operations. Marine Helicopter Squadron One (HMX-1) area, the Executive Flight Detachment, would remain where it currently resides on NSF Anacostia. The 1st Helicopter Squadron Air Force helipad near the intersection of MacDill Boulevard and Chappie James Boulevard/Defense Boulevard would remain where it currently resides.
- **Industrial/Logistics:** Anacostia has a greater proportion of industrial land use, so industrial operations would be consolidated there. Industrial uses include two transportation operations and maintenance yards, two facilities maintenance compounds, several warehouses, an indoor weapons firing range, and a recycling collection facility. Other scattered functions would be consolidated into the industrial areas. These functions include a hazardous material storage and management facility, an Army National Guard equipment storage yard and related facilities and a SeaBees compound. Consolidating logistics and industrial land uses would represent the most efficient and effective use of land that has historically supported such functions and help build a critical mass of complementary uses in one definitive area. This would help reduce vehicle trips by base users to disparate areas for facilities of a similar nature.
- **Military Family Housing:** This area is entirely on the Bolling side and would remain there. Housing support facilities such as maintenance buildings and open space/outdoor recreation uses would also be allowed in these areas. Military family housing on Bolling is undergoing a 50-year land lease privatization and portions of existing family housing land would be returned to DoD and reutilized as other land uses. The return of some portions of existing family housing land to DoD would enable the base to accommodate future mission demands and steadily work toward greater consolidation of uses and efficiency across the base.
- **Central Parking:** This land use would relocate and consolidate a number of small, dispersed parking lots prevalent on Bolling to the periphery of the enhanced Town Center development in two main lots. This land use would provide shared parking for a number of facilities in proximity to the area. This land use would also designate two

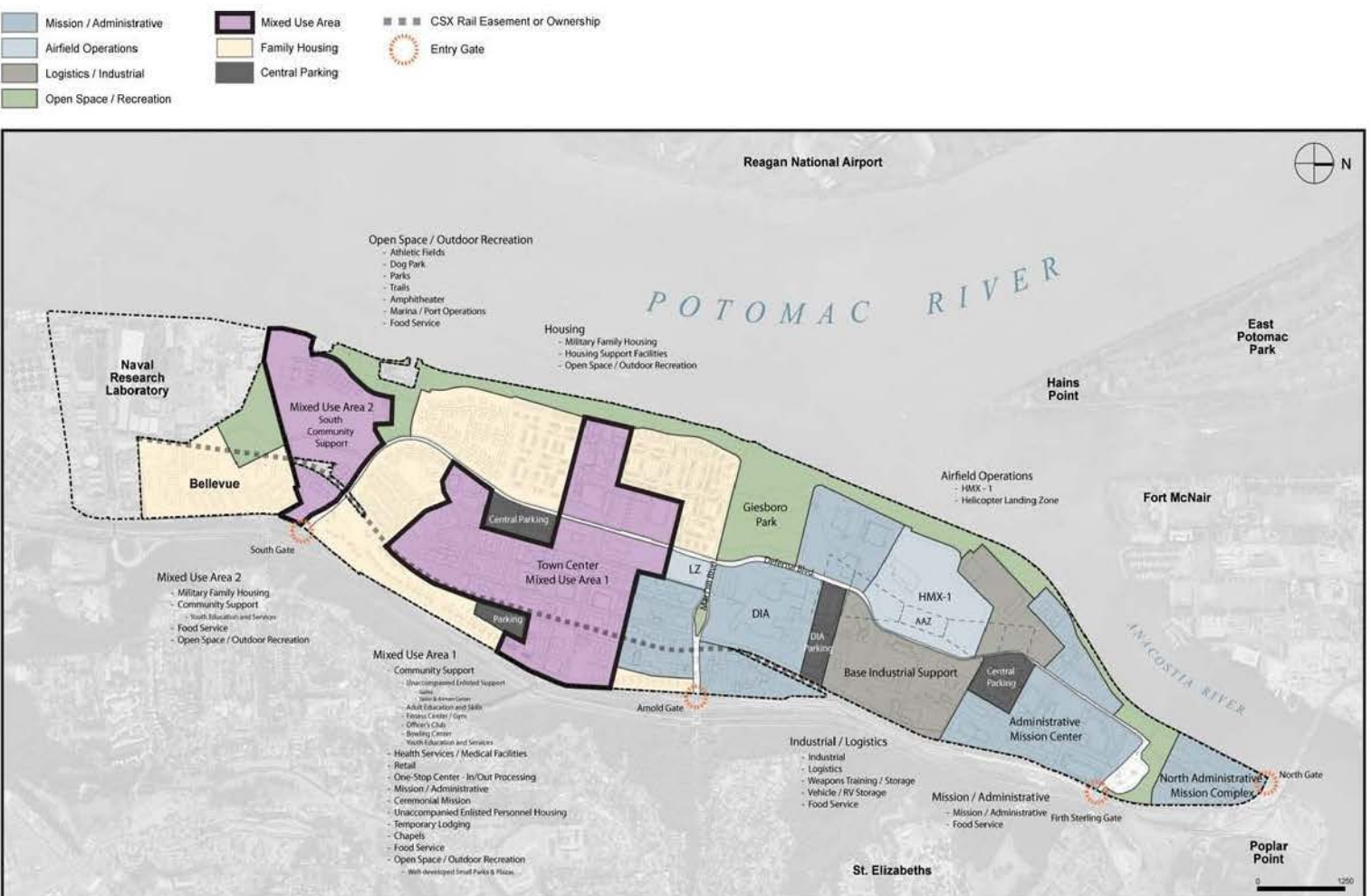
additional main lots on the Joint Base; one next to the DIA and one between Base Industrial Support and the Administrative Mission Center on Anacostia. The consolidation would make new land available for infill development, allowing the opportunity for densification in targeted nodes on base. It would also encourage base users to park once and access their destinations on foot rather than drive a car to multiple locations.

- **Town Center Mixed Use Area 1:** As the name implies, this land use allows a number of uses within its boundaries: community support functions (such as unaccompanied enlisted support, adult education and skills, fitness center/gym, officer's club, bowling center, youth education and services), health services/medical facilities, retail, a one-stop center for in/out processing, mission/administrative, ceremonial mission, unaccompanied enlisted personnel housing, temporary lodging, chapels, food service and open space/outdoor recreation facilities. This area would build upon a number of uses already present in the geographic area. For example, community support functions primarily reside on the Bolling side of the base. This area consists of uses such as the commissary, the base exchange, a gym and a child development center (CDC). This area would be further enhanced and other dispersed community support functions around the base consolidated here. A few pockets of community support may remain segregated to facilitate their special requirements or provide services to their immediate area. For instance, it may be more desirable to develop a child development center near a base gate rather than have it in the main community center in the middle of the base in order to facilitate the arrival of children from off-base (see Mixed Use Area 2 for more information). Consolidation of community support uses would enable base users to access a variety of services without being forced to travel to dispersed locations in order to accomplish different tasks. The strategic co-location of services would help build a critical mass of complementary uses in one defined area, thereby facilitating pedestrian and transit access and reducing base user reliance on personal vehicles for installation transportation. Another use encouraged by the Master Plan would be new, consolidated unaccompanied enlisted personnel housing. Both Anacostia and Bolling have their own unaccompanied (bachelor) enlisted personnel housing areas and Bolling is in need of new barracks. New barracks could be located on a site at the nexus of the community area and new pedestrian corridor along Castle Avenue. The addition of personnel residing in this area would help create an active town center and strategically locate those people who are less likely to have personal transportation closer to the area they need access to on a daily basis. An active town center would encourage pedestrian activity and make the area an appealing destination for base residents, users and guests. Along the same lines, the Navy and Air Force use temporary quarters, also known as transient quarters, at dispersed facilities across the base. The facilities along Angell Street on the edge of the Town Center and near the lodging office would remain. Any new facilities would be located in the Town Center. The presence of personnel residing in this area would help create an active town center and strategically locate those people who are less likely to have personal transportation closer to the area they need access to on a daily basis. Also, new or larger medical facilities might eventually be needed to accommodate growing medical demands on the Joint Base. Modern facilities would be most appropriately sited in an area that is accessible by several modes of transportation, near the nexus of the community area. Again, the strategic co-location of services would help build a critical mass of complementary uses in one definitive area, thereby facilitating pedestrian and transit access and reducing base user reliance on personal vehicles for installation transportation.
- **Mixed Use Area 2:** This area would call for a mix of uses such as military family housing, community support uses such as youth education and services (e.g., a CDC,

492 charter school, library or youth center), open space/outdoor recreation facilities and food
493 service. If needed, military family housing would be appropriate for the area due to its
494 proximity to community support functions and the adjacent pattern of development. If a
495 charter school and additional CDC is established on the Joint Base in order to meet user
496 demands, this area would be appropriate because it is located off of Chappie James
497 Boulevard, near family housing and the South Gate. This location would allow ease of
498 access for on-base families as well as any families that drop off children from off-base.
499 Furthermore, additional open space/outdoor recreation fields would be needed to offset
500 their loss on Anacostia and meet user demand. The location of these facilities in this
501 area would enable the base to accommodate future community support demands and
502 steadily work toward greater consolidation of uses and efficiency across the base. Food
503 service would support the youth education and services and possibly open
504 space/outdoor recreation facilities.

- 505 • **Open Space / Outdoor Recreation:** The current riverfront walk and Giesboro Park
506 would remain and be enhanced. The park would be professionally and sustainably
507 landscaped to provide a more inviting public space. The marina at the southern end of
508 the riverfront would be enhanced to promote it as a “green” destination and to be a nodal
509 connection to a new running-walking circuit trail that would expand the capacity of the
510 riverfront walk. Ballparks would be established and enhanced on land adjacent to
511 Bellevue family housing in Mixed Use Area 2.

Figure 3: Joint Base Anacostia-Bolling Proposed Land Use Map

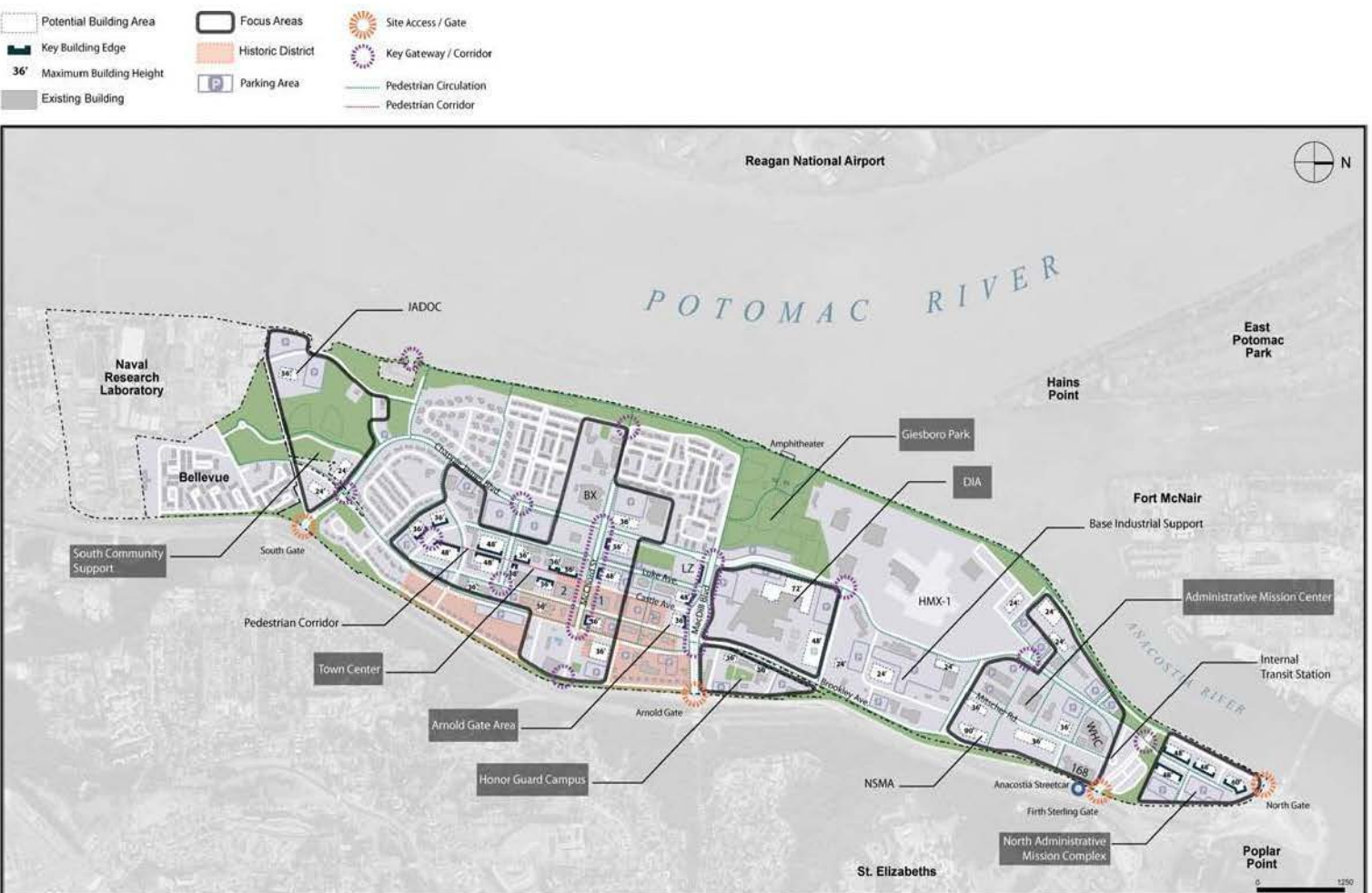


The proposed Master Plan also makes urban design recommendations. These improvements would include the following actions and are indicated on Figure 4:

Proposed Urban Design Improvements Recommended by the Joint Base Master Plan:

- Densely cluster facilities in the Administrative Mission Center area near the proposed Firth Sterling streetcar stop that is expected to be fully constructed and operational by 2012.
- Develop a strong Town Center with dense facility clustering, smaller building setbacks, peripheral parking and a focus on the pedestrian experience.
- Enhance the historic district through proper building siting and consistent, quality design in new facilities.
- Link the historic district to the enhanced Town Center by strengthening the intersection of Brookley Avenue and McChord Street.
- Enhance key gateway intersections throughout the base through markers or special landscape treatments.
- Enhance key gateway corridors such as the Arnold Gate Area by introducing an urban edge along the south side of MacDill Boulevard.
- Install and enhance pedestrian network connections throughout the installation.
- Reinforce the shoreline greenway through the introduction of additional user amenities.

Figure 4: Joint Base Anacostia-Bolling Proposed Urban Design Improvements Map

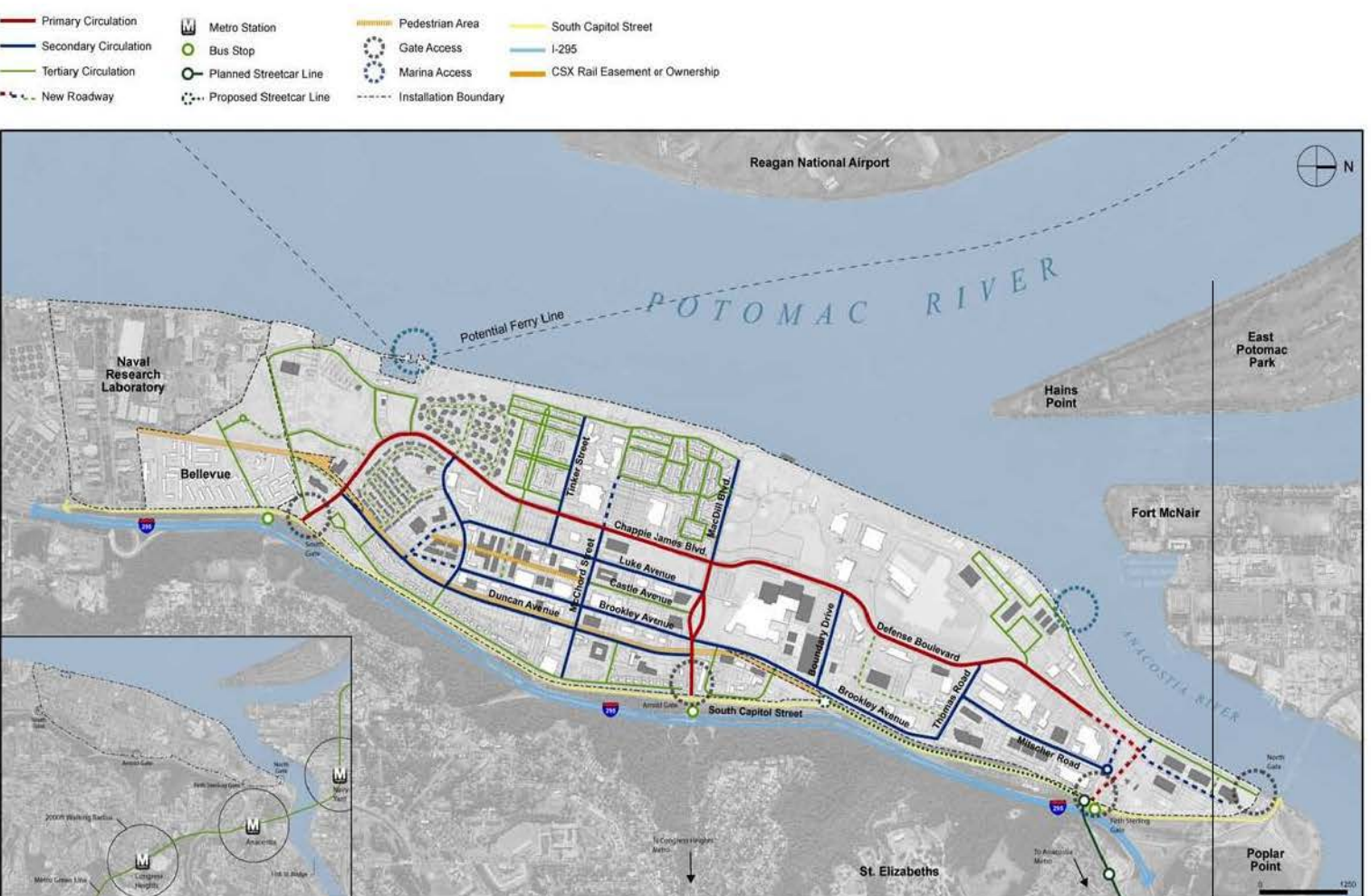


Several general proposals are made in the Master Plan for the improvement to parking and vehicular/pedestrian circulation. These improvements would include the following actions and are depicted in Figure 5:

Proposed Parking and Circulation Improvements Recommended by the Joint Base Master Plan:

- **Parking:** Parking would be consolidated in the most useful locations and primarily within four main lots. Parking will be on the periphery of development, rather than interspersed among the facilities. This would reduce walking distance among buildings, support transit operations and support anti-terrorism/force protection criteria separating vehicular access from occupied buildings.
- **Firth Sterling Gate:** This gate would be enhanced for anti-terrorism/force protection measures as well as traffic flow by modifying it to appropriately handle large vehicle inspections. Proper design would help prevent vehicle queuing from extending out to exterior transportation networks.
- **South Gate:** This gate would have anti-terrorism/force protection improvements implemented.
- **Trail:** A new running-walking trail would be constructed, connecting to either end of the riverfront walk.
- **Pedestrian areas:** A pedestrian plaza/walk would be created off McChord Street to serve a dense cluster of administrative and community service facilities. Greater pedestrian improvements would be made along McChord and Mitscher Streets.
- **Road extensions:** McChord Street would be extended through the Exchange/Commissary parking lot to the waterfront to help provide more of a grid network. Cudahay Street would feature an extension by turning to intersect with Defense Boulevard.

Figure 5: Joint Base Anacostia-Bolling Proposed Traffic Improvements Map



2.2 THE MASTER PLAN AND THE MASTER PLANNING PROCESS

As described in the proposed action, the Joint Base Master Plan consists primarily of a new consolidated land use plan with an associated urban design framework which provides direction to guide future development. The proposed Master Plan does not provide a schedule of development projects nor does it include a specific list of construction and demolition projects. The Master Plan does assume potential new personnel growth (25 percent) over the next 10 years associated with its implementation; however, the growth is by no means exact or guaranteed to happen. It is simply a reasonable projection based on past installation growth trends and potential future Navy and Air Force needs. This 25 percent growth is in addition to three known planned or anticipated joint base projects with associated employee growth (NCR, JADOC, NSMA), that are expected regardless of the Master Plan's adoption and implementation. However, if and when new facility projects are eventually developed as a result of this Master Plan, Joint Base Anacostia-Bolling may site them using the general guidance of the Master Plan's land use concepts and design framework. Implementation of future site projects would still require full compliance with the NEPA process.

The master planning process consisted of two phases of work: Phase One (March 2008 to January 2009) and Phase Two (February 2009 to present). Phase One focused on documenting the most pertinent issues on the two installations and producing a concept plan to generate discussion for future joint basing. Phase Two of the project has focused on documenting existing conditions, identifying gaps in current base operations or opportunities for change, and refining the land use concept. This work has included extensive data gathering as well as interviews and coordination with stakeholders including Air Force and Navy leadership, base personnel, and agencies such as the National Capital Planning Commission (NCPC) and the Commission of Fine Arts (CFA) to produce a guiding vision for the base for the next 10 years.

The Joint Base Anacostia-Bolling Master Plan is the cumulative product of this work, having gone through numerous iterations during Phase Two in response to stakeholder input and identified issues. Due to the nature of the planning process multiple alternatives were considered for land use configuration on the installation. These ideas were explored and altered, based on a number of factors including: land use constraints, mission needs, the feasibility of the proposed action, and transportation and sustainability goals. This process has resulted in successive variations of land use concepts, and the identification of one alternative—the Joint Base Master Plan Alternative—as the preferred alternative because it balances existing base constraints with meeting future installation objectives. The exact impacts of future Joint Base projects and their alternatives will be more thoroughly examined using the NEPA process when those projects are identified and designed.

2.3 ALTERNATIVES

NEPA regulations call for the consideration and assessment in the EA of reasonable alternatives. Alternatives that are not reasonable do not need to be evaluated.

2.3.1 ALTERNATIVES CONSIDERED BUT DISMISSED

As stated in Section 2.2 above, the master planning process has resulted in the consideration of numerous, slightly-varying alternatives for land use configuration on Joint Base Anacostia-Bolling. For example, the relocation of the mid-base helipad was deliberated. One alternative relocated the helipad to the Logistics/Industrial area in the north and another showed its

relocation to an area in the south. Keeping the helipad in its current, central Mission/Administrative location was also considered. However, it was determined operational conflicts would result from its relocation to the Logistics/Industrial area in the north near HMX-1 and future development in the central Mission/Administrative area would be impeded if the helipad were kept in its current location. For these reasons, the helipad's relocation to the Airfield Operations land use area in the south was considered the most appropriate proposal. Numerous variations of this scenario were played out on different issues in the master planning process—and the enumeration of all such instances would not lend itself well to the brevity of an EA. As a result, only three alternatives are carried forward for consideration.

2.3.2 ALTERNATIVES CARRIED FORWARD

The table below breaks down the three alternatives identified, particularly in regard to the population growth associated with each. These alternatives are further explained in the text below.

Table 1: Joint Base Anacostia-Bolling Current Population and Projected Future Growth Under EA Alternatives

<i>Facility</i>	<i>Current Population</i>	<i>Planned Growth (Known)</i>	<i>Alternative A: No Action Alternative (Current Pop + Planned Growth)</i>	<i>Alternative B: No Master Plan (Planned Growth +25% Growth, No MP)</i>	<i>Alternative C: Joint Base Master Plan (Planned Growth +25% Growth, With MP)</i>
Bolling AFB					
General	3,349	NCR 500			
Secure Tenant	DIA 7,000	JADOC 200			
NSF Anacostia					
General	1,651				
Secure Tenants	1,209	NSMA 800			
Total	13,209	1,500	14,709	18,386	18,386

Source: Bolling AFB, NSF Anacostia, DIA

No Action Alternative

Under the No Action Alternative, Joint Base Anacostia-Bolling would be administratively joined by October 2010. The installation would continue to operate as at present. The known base personnel growth from the relocation of NCR personnel from leased facilities, JADOC and NSMA to the installation would take place as previously planned:

- National Capital Region (NCR) Air Force personnel relocations: As a corollary to the 2005 BRAC law, a net gain of 500 Air Force personnel is expected to relocate from leased office space in Arlington, VA to existing facilities on Bolling Air Force Base. The relocation process is in progress.
- Joint Air Defense Operation Center (JADOC): In support of regional national defense initiatives and increased post-9/11 security requirements, approximately 200 additional

personnel are expected to relocate to a new facility on Bolling AFB. A preliminary site has been selected and an environmental assessment has been produced.

- Naval Support Management Activity (NSMA): In fulfillment of the 2005 BRAC mandate, approximately 800 personnel will relocate from leased office space in Arlington, VA to a new office building and warehouse on NSF Anacostia. The final environmental assessment of this facility was submitted to NCPC in October 2009.

The No Action Alternative is not considered a reasonable alternative because it would deny a new, administratively-formed joint base the ability to physically optimize, and it would not fulfill the DoD's specific guidance to develop a Joint Base Installation Master Plan. However, it is considered in this EA to be consistent with CEQ's guidance to include a baseline against which impacts can be measured.

The No Master Plan Alternative

Under the No Master Plan Alternative, the anticipated base personnel growth from the relocation of NCR leased facility personnel, JADOC and NSMA would take place as previously planned. Furthermore, an additional 25 percent of general base growth is projected to occur over the next 10 years. However, under this alternative there would be no change in the planning considerations or process currently employed to site facilities on the base. Nor would there be a new comprehensive vision to help guide the placement of future facilities on the installation, or their design. Various functions would remain scattered throughout the two legacy installations—such as two gymnasiums and dispersed bachelor enlisted housing—continuing present inefficiencies. There would be no effort to consolidate related functions and no intent to create dense, walkable administrative and community nodes which could more easily be serviced by transit.

The No Master Plan Alternative is not considered a reasonable alternative because it would deny a new, administratively-formed joint base the ability to physically optimize, and it would not fulfill the DoD's specific guidance to develop a Joint Base Installation Master Plan. However, it is considered in this EA to be consistent with CEQ's guidance to include a baseline against which impacts can be measured.

The Joint Base Master Plan Alternative (Preferred Alternative)

The Joint Base Master Plan Alternative is the preferred alternative. Under this alternative, the anticipated base personnel growth from the relocation of NCR leased facility personnel, JADOC and NSMA would take place as previously planned. Furthermore, an additional 25 percent of general base growth is projected to occur over the next 10 years.

This alternative would provide a Joint Base Master Plan that consists primarily of a new consolidated land use plan with 11 functional use zones and an associated urban design framework which provides direction on how to guide future development. This is the preferred alternative because it would: (1) meet mission needs, (2) achieve the stated plan objectives, (3) provide the policy direction needed to guide quality installation development, and (4) fulfill the specific guidance provided by the DoD to develop a Joint Base Installation Master Plan.

This alternative does not include a schedule of planned projects (construction or demolition) associated with it; this alternative is solely a guiding policy framework for the future. Implementation of future site projects would undertake the NEPA process when the parameters of those projects are established and the impacts of the projects are measurable.

3.0 AFFECTED ENVIRONMENT

CEQ's regulations (40 CFR Part 1500 et seq.) implementing NEPA, require documentation that briefly describes the environment of the area(s) potentially affected by the alternatives under consideration. For the purposes of this EA, the affected environment is the area considered directly influenced by the Joint Base Anacostia-Bolling Master Plan. Therefore, the affected environment is generally the area within installation boundaries. This is due to the fact that the installation is cut off from most nearby land uses as a result of its low topography, I-295 hemming in its eastern border and the Anacostia and Potomac Rivers defining its western border. The study area for each affected resource includes this directly influenced area but may also extend outside the base to include indirectly influenced adjacent properties. Such a determination will depend on the resource examined and will be noted in the text.

3.1 COMMUNITY RESOURCES

3.1.1 EXISTING LAND USE PATTERNS

3.1.1.1 MASTER PLAN AREA AND VICINITY

Joint Base Anacostia-Bolling is located in Washington, D.C., on the east side of the Anacostia and Potomac Rivers and west of Interstate (I-295). It occupies part of a long and relatively narrow strip of land that is bounded to the north by the Frederick Douglass Memorial Bridge and South Capitol Street and to the south by institutional facilities such as the Naval Research Laboratory (NRL) and the District of Columbia's Blue Plains Wastewater Treatment Plant.

The Joint Base installation is surrounded by a perimeter fence and is accessed through three guarded gates: the Firth Sterling Gate (accessed via Firth Sterling Avenue), the Arnold Gate (accessed via Malcolm X Avenue) and the South Gate (accessed via Overlook Avenue). There are two other gates—one exclusively for Bellevue Naval Housing access and a seldom-used northern gate.

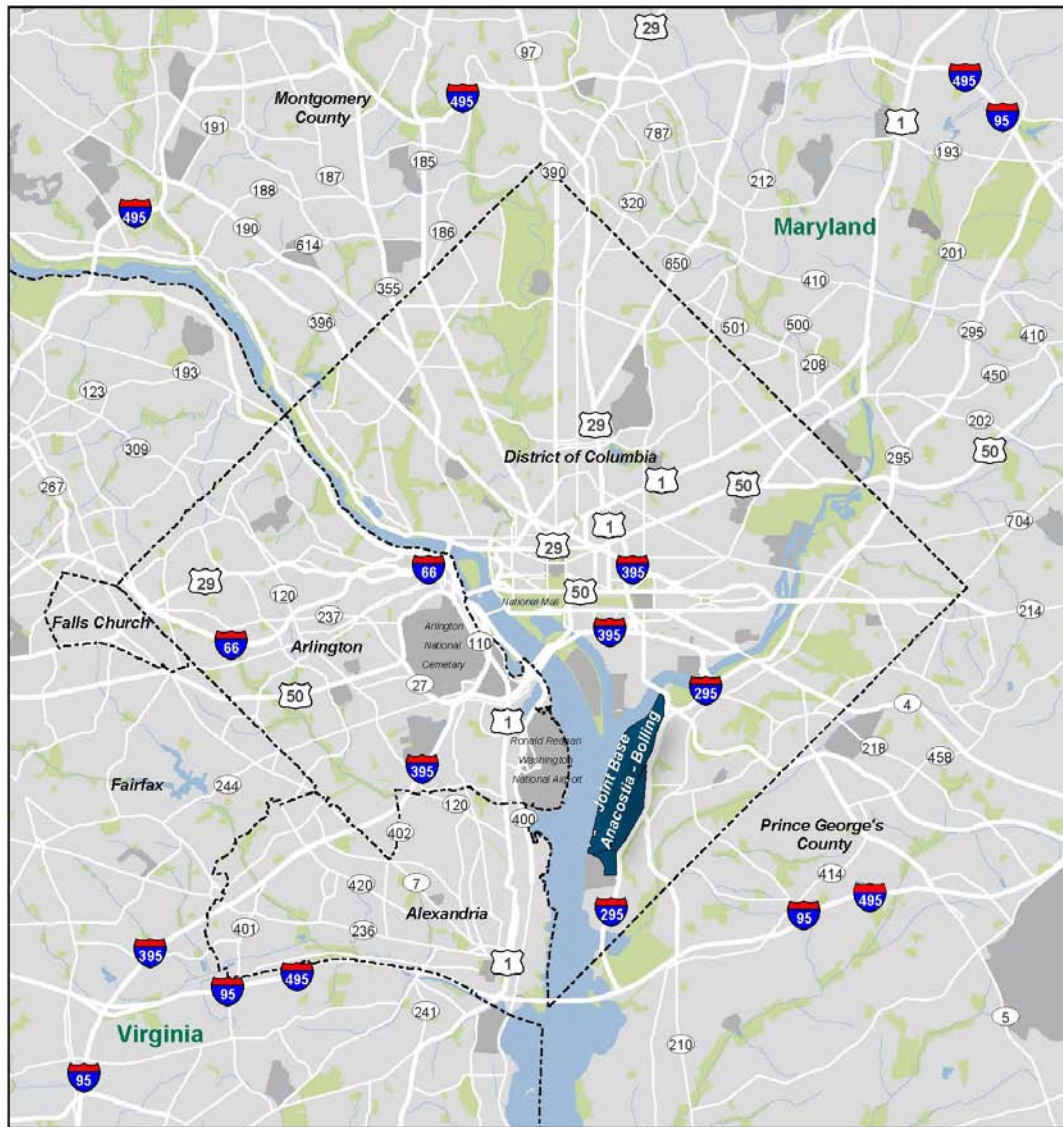
The primary land uses on the Joint Base are government office space, community support services, presidential helicopter operations, family housing, light industrial and waterfront recreation. NSF Anacostia is a low-density, loosely-organized facility dominated by light industrial, maintenance, and scattered mission/administrative uses. Bolling AFB is characterized and organized more by similar uses such as mission/administrative, community support and family housing.

The most identifiable feature on the Joint Base is the Defense Intelligence Agency (DIA) complex. Due to its height and mass, the facility is readily visible from many vantage points along the Anacostia and Potomac Rivers. Another prominent building is the nine-story enlisted-housing facility on Bolling AFB—Blanchard Barracks—to the south. Many low-rise office buildings, old hangar structures and other functional buildings dot the rest of the installation.

Land uses within a mile of the Joint Base consist of a mix of open space, commercial, light industrial, governmental and residential uses. The presence of the South Capitol Street/Overlook Avenue/I-295 corridor along the eastern boundary of the installation creates a strong functional and visual break between the installation and the neighborhoods that lie on higher ground east of I-295 (Barry Farms, Congress Heights), separated from the low-lying riverside plain by a wooded slope. To the immediate east, on a rising slope overlooking the installation is the forested St. Elizabeths west campus which will house part of the Department

of Homeland Security headquarters. To the southeast of the installation is a mix of residential, commercial and public building uses. To the west of the installation are the Anacostia and Potomac Rivers. Directly across the Anacostia River from the northern end of Joint Base Anacostia-Bolling is Hains Point/East Potomac Park, a public recreational spot. Across the Potomac River from the southern end of Joint Base Anacostia-Bolling is Reagan Washington National Airport. North of the installation and the Frederick Douglass Memorial Bridge/South Capitol Street is Poplar Point.

Figure 6: Joint Base Anacostia-Bolling Location Map



Joint Base Anacostia-Bolling Location



3.1.2 RELEVANT PLANNING POLICIES, INITIATIVES AND PROJECTS

This section of the EA documents the relevant planning policies, initiatives and projects that have a bearing on Joint Base Anacostia-Bolling study area. The study area for this resource is defined as the area inside the installation's boundaries and those adjacent properties outside the boundaries close to the Joint Base. Local, regional and federal planning policies, initiatives and projects were reviewed for this section and the most applicable elements outlined below.

3.1.2.1 DISTRICT OF COLUMBIA

Development in the District of Columbia is guided by a number of plans and guidelines as well as two main government agencies. The two planning agencies for D.C. are the National Capital Planning Commission (NCPC) and the District of Columbia Office of Planning (DCOP). NCPC represents the federal interest in the Capital and DCOP serves as the primary District representative. Transportation planning is administered by the District of Columbia Department of Transportation (DDOT).

NCPC and DCPO prepare the *Comprehensive Plan for the National Capital*, which provides the vision and planning policies for future growth and development in the District of Columbia. The comprehensive plan has two sets of recommendations: Federal Elements and District Elements. The Federal Elements cover recommendations directed at Federal property and the Federal interest in the Nation's Capital. The District Elements cover recommendations directed at non-Federal property within the District of Columbia.

Comprehensive Plan for the National Capital, Federal Elements

The *Comprehensive Plan for the National Capital, Federal Elements* (2004) is the principal planning document adopted by NCPC for the planning of federal lands in the National Capital Region (which includes the Master Plan area). This plan also reflects NCPC's framework plan for Washington's Monumental Core called *Extending the Legacy: Planning America's Capital for the 21st Century*, released in 1997.

The Federal Workplace Element identifies the following policies that are relevant to the Joint Base Master Plan:

"Support regional and local agency efforts to coordinate land use with the availability or development of transportation alternatives to the private automobile."

"Utilize available federally owned land or space before purchasing or leasing additional land or building space."

The Transportation Element identifies the following policies that are relevant to the Joint Base Master Plan:

"Outside of the Central Employment Area, but within the Historic District of Columbia boundaries, the parking ratio should not exceed one space for every four employees."

"Develop TMPs that explore methods and strategies to meet prescribed parking ratios, and include a thorough rationale and technical analysis in support of all TMP findings."

The Parks and Open Space Element identifies the following policies that are relevant to the Joint Base Master Plan:

“Discourage large paved parking areas and other non-water-related development along the Anacostia and Potomac Rivers...”

“The points where gateway routes enter the District of Columbia are of special significance. These entry points, and adjacent development, should provide an appropriate sense of transition and arrival, requiring careful design...”

The Federal Environment Element identifies the following policies that are relevant to the Joint Base Master Plan:

“Use pervious surfaces and retention ponds to reduce stormwater runoff and impacts on off-site water quality.”

“Encourage the use of innovative and environmentally friendly *Best Management Practices* in site and building design and construction practice, such as green roofs, rain gardens, and permeable surface walkways, to reduce erosion and avoid pollution of surface waters.”

“Encourage modification of existing developments to correct flood hazards and to restore floodplain values. If the necessary modifications cannot be accomplished, the buildings should be removed when feasible to allow restoration of the natural values of the floodplain.”

The Preservation and Historic Features Element identifies the following policies that are relevant to the Joint Base Master Plan:

“Encourage the practice of good design principles throughout the region to continually strengthen the image of the nation's capital.”

“Sustain exemplary standards of historic property stewardship.”

The Anacostia Waterfront Initiative and Anacostia Waterfront Frame Work Plan

The *Anacostia Waterfront Initiative (2000)* and *Anacostia Waterfront Frame Work Plan (2003)* are the result of a partnership and collaboration between a number of Federal agencies and the District of Columbia government to transform the Anacostia River from a forgotten resource into a vibrant urban waterfront. The initiative, spearheaded by the DCOP, produced the Framework Plan to guide revitalization efforts within the Anacostia Waterfront Initiative (AWI) boundary; it also focused on eight target areas producing detailed plans. While the AWI boundary does not include Joint Base Anacostia-Bolling, there are three target areas that are in proximity to the installation and therefore relevant to the Joint Base Master Plan. These target areas include the South Capitol Street Corridor, Poplar Point and the Anacostia Riverwalk and RiverParks.

The Framework Plan calls for the physical redesign and enhancement of the South Capitol Street Corridor in order to transform the roadway into a fitting symbolic gateway for the nation's

capital. Key to this vision is a new bridge that accommodates multi-modal transportation and incorporates attractive and functional urban design elements.

Under the Framework Plan, the Poplar Point target area will transform into a new waterfront park and green gateway complete with such amenities as gardens, memorials, museums, performance spaces and trails.

The Framework Plan proposes that the Anacostia Riverwalk and RiverParks target area provide a comprehensive network of trails along the Anacostia River waterfront. These linkages are intended to provide recreational and commuter connectivity throughout the area with the construction of a multi-use riverwalk and expansion of multi-use and on-street trails.

South Capitol Street Corridor Improvements and Bridge Realignment

DDOT released a draft Environmental Impact Statement (EIS) in January 2008 for its planning project to improve the South Capitol Street corridor and turn it into an urban boulevard that can function as a symbolic gateway into the nation's capital. The study area extends to a point south of Firth Sterling Avenue, which is adjacent to the northeastern portion of NSF Anacostia.

The most relevant component of the proposed corridor improvements is the proposed realignment of the Frederick Douglass Memorial Bridge which carries South Capitol Street across the Anacostia River. The bridge would be widened and realigned south of its current location. Part of the land required for this realignment is currently Navy property.

St. Elizabeths Campus Redevelopment

The historic St. Elizabeths campus is set to serve as the new, consolidated headquarters of the Department of Homeland Security. The U.S. General Services Administration released its final Environmental Impact Statement in November 2008 for its redevelopment project. St. Elizabeths consists of an east and west campus. The west campus is located on a hilltop across I-295 from the NSF Anacostia portion of the Joint Base. The west campus will feature 3.8 million gross square feet of office space in both new construction and adaptive reuse of the St. Elizabeths historic facilities. Upon completion of the project, nearly 14,000 federal workers are expected to report to the complex on a daily basis. As part of the project, transportation improvements, including interchange improvements near the Joint Base at Malcolm X Avenue and a new access road that provides access to the west campus, are expected. The Master Plan calls for three phases of work with significant activity over the next five years.

Other Projects of Note:

- *Barry Farm Redevelopment Plan:* In 2006, the DCOP issued a plan for the redevelopment of Barry Farm/Park Chester/Wade Road neighborhood. The neighborhood is bounded by Suitland Parkway to the north, Martin Luther King Jr. Avenue to the east, Firth Sterling Avenue to the west and St. Elizabeths West Campus to the south. The plan calls for the redevelopment of the neighborhood and its public and low income housing developments into a mixed-income, mixed-use community. Significant elements of the plan include: 1,391 housing units, community facilities enhancements, construction of a pedestrian bridge across Suitland Parkway to the Anacostia Metrorail station, and increasing connectivity in the neighborhood through the extension of the grid network. The implementation timeline for redevelopment features significant activity starting in 2010 and continuing until target completion in 2018.

- *Anacostia Streetcar Project*: The District of Columbia Department of Transportation plans to install a city-wide streetcar system. Its early efforts include the Anacostia Streetcar project—a project that directly impacts Joint Base Anacostia-Bolling. The first phase of the project will serve NSF Anacostia with a stop at the Firth Sterling Gate known as the “Navy Annex Stop” and run to the Anacostia Metrorail station. According to DDOT, the streetcar line will eventually extend across the Anacostia River over one of the new 11th Street bridges and provide a connection with the Washington Navy Yard Metrorail station. Work is currently underway on the initial line segment that will serve the Joint Base. The initial line segment is expected to be fully constructed and operational in 2012. The long-range plan for the D.C. streetcar system shows a second stop near Arnold Gate outside Bolling AFB in Phase Three of its efforts.
- *11th Street Bridges Reconstruction and Realignment*: The District of Columbia Department of Transportation (DDOT) plans to reconstruct and realign the 11th Street bridges that cross the Anacostia River. The final Environmental Impact Statement was released in September 2007.
- *DC WASA Combined Sewer System Long Term Control Plan*: In 2002, the District of Columbia Water and Sewer Authority (DC WASA now known as DC Water) prepared a plan for controlling combined sewer overflows (CSO) in the District of Columbia. In an effort to modernize the system and dramatically reduce excess flow from CSO outfalls following storm events, DC Water proposed a number of long range improvements. Recommendations included the construction of a Blue Plains Wastewater Treatment Plant tunnel connection underneath the Joint Base and the siting of an overflow structure, diversion structure and drop shaft in Geisboro Park for the combined sewage from a number of CSO’s on the Anacostia River.
- *2005 District of Columbia Bicycle Master Plan*: DDOT put forth a master plan for the bicycle network in the District of Columbia. Elements of this plan are incorporated into several of the new development plans and projects taking place in the vicinity of the Master Plan area.

3.1.2.2 NAVY PLANS

NAVFAC 2035

NAVFAC 2035 provides the overarching guiding principles that support the achievement of the Navy’s Maritime Strategy (*A Cooperative Strategy for 21st Century Seapower*) for reshaping its shore establishment and capabilities. It is designed to help keep the many different infrastructure plans at Navy installations unified and aligned with higher order guidance and strategic aims. The following goal alignment and guiding principles are most relevant to the Joint Base Master Plan:

“Improve land use compatibility to satisfy all military training and readiness requirements in a cooperative manner with localities and environmental regulators.”

“Leverage our natural and cultural resources as value added commodities.”

“Implement sustainable design and development to ensure long-term availability of resources and environmental stewardship.”

“Identify opportunities to improve operational efficiencies through consolidation and modernization.”

1014
1015 “Proactively pursue strategic Joint-basing, Joint-service and cooperative community
1016 partnering.”

1017
1018 “Provide high quality, safe, and secure working and living environments for the Total
1019 Force.”

1020
1021 Based on these goals and guiding principles, the desired effect for an installation such as Joint
1022 Base Anacostia-Bolling includes the following:

1023
1024 “Transportation networks provide efficient circulation of people, goods, and services.”

1025
1026 “The shore infrastructure promotes military pride and professionalism through consistent,
1027 high quality appearance standards.”

1028
1029 “The Navy proactively manages its cultural and natural resource assets to enhance the
1030 mission capabilities.”

1031
1032 “Navy installations are models of sustainable development.”

1033 1034 **3.1.2.3 DESIGN REVIEWS**

1035 Two Federal agencies review Federal projects in the District of Columbia: the National Capital
1036 Planning Commission (NCPC) and the Commission of Fine Arts (CFA). NCPC is the Federal
1037 government’s central planning agency for Federal land and buildings in the National Capital
1038 Region. CFA is charged with giving expert advice on matters of design and aesthetics.

1039 1040 **3.1.3 WATERFRONT ACCESS**

1041 One topic that relates to land use patterns and planning policies guiding development in the
1042 area is the issue of public waterfront access on the installation. The study area for the analysis
1043 of this resource is defined as the area within the Joint Base Anacostia-Bolling installation
1044 boundaries. In preparation of this analysis, the following resources were consulted: aerial
1045 photos, geographic information system (GIS) databases, the *2003 Anacostia Waterfront*
1046 *Framework Plan*, the District of Columbia *2005 Bicycle Master Plan*, the revised 2008 Anacostia
1047 Riverwalk Trail Map, the District of Columbia Department of Transportation, and site visits.

1048
1049 Joint Base Anacostia-Bolling occupies approximately 3.3 miles of shoreline on the banks of the
1050 Anacostia and Potomac Rivers. Currently the installation offers waterfront access along its
1051 western boundary to base residents, personnel and authorized visitors. Due to security
1052 constraints, access by the general public is strictly prohibited. As regional attention has turned
1053 to capitalizing on the Anacostia waterfront, plans focused on enhancing the area and improving
1054 the general public’s access to the waterfront have increased. One such plan previously
1055 mentioned, the *2003 Anacostia Waterfront Framework Plan*, makes the expansion of trails along
1056 the waterfront a priority through the development of the Anacostia Riverwalk and RiverParks.
1057 Multi-use trails along the Anacostia waterfront—including an eventual connection through Joint
1058 Base Anacostia-Bolling—have been proposed. The *2005 District of Columbia Bicycle Master*
1059 *Plan* also proposed a multi-use trail connection through a portion of the Joint Base to tie into the
1060 regional trail network. However, more recent representations of the proposed Anacostia
1061 Riverwalk Trail Map on the DDOT website show a multi-use trail running parallel to the base on
1062 the outside of its perimeter between the eastern installation boundary and South Capitol Street.

This would function as an alternative to providing a publicly-accessible waterfront connection within installation boundaries.

3.2 CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to integrate consideration of historic preservation issues into the early stages of their planning projects. Under Section 106, the Federal agency or Federally-financed undertaking must account for the effects of the undertaking on any district, site, building, structure, or object that is included or eligible for inclusion in the National Register of Historic Places (NRHP). Eligibility determinations are based on National Register criteria for architectural integrity. Section 106 consultation in the District of Columbia is conducted with the D.C. Historic Preservation Office (DCHPO).

A coordination letter regarding cultural resources present on the Joint Base was sent to the District of Columbia State Historic Preservation Officer on April 6, 2010; No written response was received advising of specific concerns but feedback was obtained in coordination meetings. The letter to the agency is found in the Appendix.

This section of the EA documents the potential archaeological, historic, and visual resources that are present on Joint Base Anacostia-Bolling. The study area for archaeological resources and historic resources is defined as the area within the installation boundaries. The study area for visual resources is defined as the area within the installation boundaries and those publicly-accessible areas outside its boundaries within one mile that feature clear visibility of the installation. In preparation of this inventory, the following resources were consulted: aerial photos, Geographic Information System (GIS) databases, the District of Columbia's 2009 *Inventory of Historic Sites*, the 1996 Bolling AFB Cultural Resources Management Plan (CRMP), and the current Integrated Cultural Resources Management Plans (ICRMP) for Bolling AFB and NSF Anacostia, interviews, prior studies, and field surveys.

3.2.1 ARCHAEOLOGICAL RESOURCES

Joint Base Anacostia-Bolling occupies land near the confluence of the Anacostia and Potomac rivers. Because it is located on the banks of the Anacostia and Potomac rivers, it has both prehistoric and historic archaeological potential. Prehistoric archaeological features from the Archaic (8,500 BC to 1,000 BC), Woodland (1,000 BC to AD 1600), European Contact (following 1600) periods may possibly be found on the property. Archaic period cultures utilized regional forest and water resources and developed more specialized stone tools. Woodland cultures are distinguished by their domestication of plants and animals, the establishment of more permanent settlements along streams and flood plains, and the introduction of triangular projectile points and maize agriculture.

The natural shoreline has been altered and originally terminated near the present-day installation boundary between NSF Anacostia and Bolling AFB. Present-day NSF Anacostia occupies land that consists of man-placed fill whereas Bolling AFB land sits primarily on natural land—although portions of Bolling AFB also consist of man-placed fill. The area remained largely rural through much of the nineteenth century; however, by as early as 1886 the area known as the Anacostia Flats was bought by the Federal government for military use and subsequently filled in by the U.S. Army Corps of Engineers. Despite the area's undesirable location for an aviation field due to its poor drainage and the amount of filling and grading needed to make it serviceable, it had the strategic advantage of a central location. Eventually,

due to flooding problems, Bolling Field relocated immediately south of its original location to an area known as the Upper Gisborough Tract where construction of the new installation began. The Navy took full control of the land vacated by the Army.

Bolling AFB Archaeological Sites

Five prehistoric sites have been identified on Bolling AFB, all of which were recorded prior to or during the construction of the new runways for Bolling Field in the 1930s. Four of the sites include prehistoric Native American camps, whereas the fifth site contains two prehistoric ossuary pits. However, the reported locations of most of these sites are unconfirmed and they have not been thoroughly evaluated for National Register of Historic Places (NRHP) eligibility through formal archaeological studies. Therefore, the exact location and condition of these sites have not been verified. The future identification of existing and unknown prehistoric sites remains a possibility, especially given the installation's location at the confluence of the Anacostia and Potomac rivers in an area heavily used and favored by prehistoric people.

Table 2: NRHP-Eligible Contributing Buildings on Bolling AFB

<i>Site No.</i>	<i>Site Type</i>	<i>Time Period</i>	<i>NRHP Status</i>
51SW3	Prehistoric Camp	Contact Period	Unevaluated
51SW4	Ossuary	Undetermined	Unevaluated
51SW5	Prehistoric Camp	Undetermined	Unevaluated
51SW6	Prehistoric Camp	Undetermined	Unevaluated
51SW12	Prehistoric Camp	Undetermined	Unevaluated

Source: 2009 Bolling AFB ICRMP

Although the precise location of the identified sites is not presently known, data suggests they are likely buried beneath several feet of fill—assuming they were not destroyed in the runway construction of the 1930s.

In addition to the five identified archeological sites, 36 potential unidentified sites could be located within Bolling AFB installation boundaries. These potential unidentified archaeological sites could include evidence of historic settlement that occurred in the area such as structures from Gisborough Plantation or subsequent homes and outbuildings from the late 1800s. These 36 sites are suspected based on their locations on historic maps or other documents suggesting their presence. A portion of the Gisborough Plantation where Bolling now sits was used as a Civil War encampment and cavalry depot for the Union Army in the 1860s.

Previous archaeological studies that have taken place on the base have typically been mandated under Section 106 for planned projects. No comprehensive Section 110 archaeological survey of Bolling AFB has been conducted. Such a survey is considered exceptionally difficult given the depth and extent of fill deposits across most of the base, especially along the western portion of the installation. However, it is believed the most archaeologically sensitive areas lie along the original shoreline of the Anacostia River.

NSF Anacostia Archaeological Sites

The original location of Bolling Field, now occupied by NSF Anacostia, was constructed of man-placed fill overlying the sand and gravel of the Anacostia River floodplain prior to 1917. The land is mainly an artificial extension of the natural shoreline. Presently, there are no known archaeological resources on the NSF Anacostia side.

Bellevue Naval Housing Complex Archaeological Sites

Bellevue Naval Housing complex occupies 63 acres of land directly adjacent to Bolling AFB. In December 2009 a Phase II Archaeological Investigation of Site 51SW7 at the Bellevue Housing Complex was conducted in preparation for constructing the preferred alignment of a connector road between the housing complex and the central portion of Bolling AFB. The work was also conducted in accordance with Section 110 of the National Historic Preservation Act (NHPA) to evaluate the extent and significance of the archaeological deposits and determine its eligibility for listing on the NRHP. The investigation uncovered a number of prehistoric artifacts featuring a high degree of integrity from the Early Woodland Period. As a result, the site exhibits high research potential under Criterion D of the NRHP. The consultant recommended the site should be determined eligible for listing. A final report from the Navy is pending.

3.2.2 HISTORIC RESOURCES

The Air Force (originally as a part of the Army) and Navy have jointly occupied the Anacostia-Bolling site since 1917. While property boundaries and installation missions have evolved over the years, historic buildings remain. This section documents these historic resources.

Bolling Air Force Base Historic District

There are 66 buildings present on Bolling AFB that are listed in the 1996 Bolling AFB Cultural Resources Management Plan (CRMP), the most recent CRMP that contains a comprehensive architectural survey that received DCHPO concurrence. These buildings date from 1933 to 1943 and represent the contributing buildings that comprise the Bolling AFB Historic District which is eligible for National Register of Historic Places (NRHP) listing. The district's collection of contributing historic buildings is significant for their illustration of the Army Quartermaster Corps massive building program undertaken between 1920 and 1939 to alleviate housing and building shortages on Army bases. The Quartermaster Corps created and employed standardized building plans on bases across the country, with regional variations, including those employed on Bolling AFB in the early 1930s. At Bolling AFB, the variation of the Georgian/Colonial Revival architectural style used was called the "Mount Vernon" style; most buildings were constructed of red brick, laid in Flemish bond with limestone or cast stone trim and featured hipped or gabled roofs. These buildings also represent the initial development of the modern Bolling Field when the facility re-located south of its original site, which was entirely turned over to the Navy. The Bolling AFB Historic District, which encompasses both contributing and non-contributing buildings, is depicted in Figure 7. Contributing buildings in the Historic District are briefly described in Table 3.

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Table 3: NRHP-Eligible Contributing Buildings on Bolling AFB

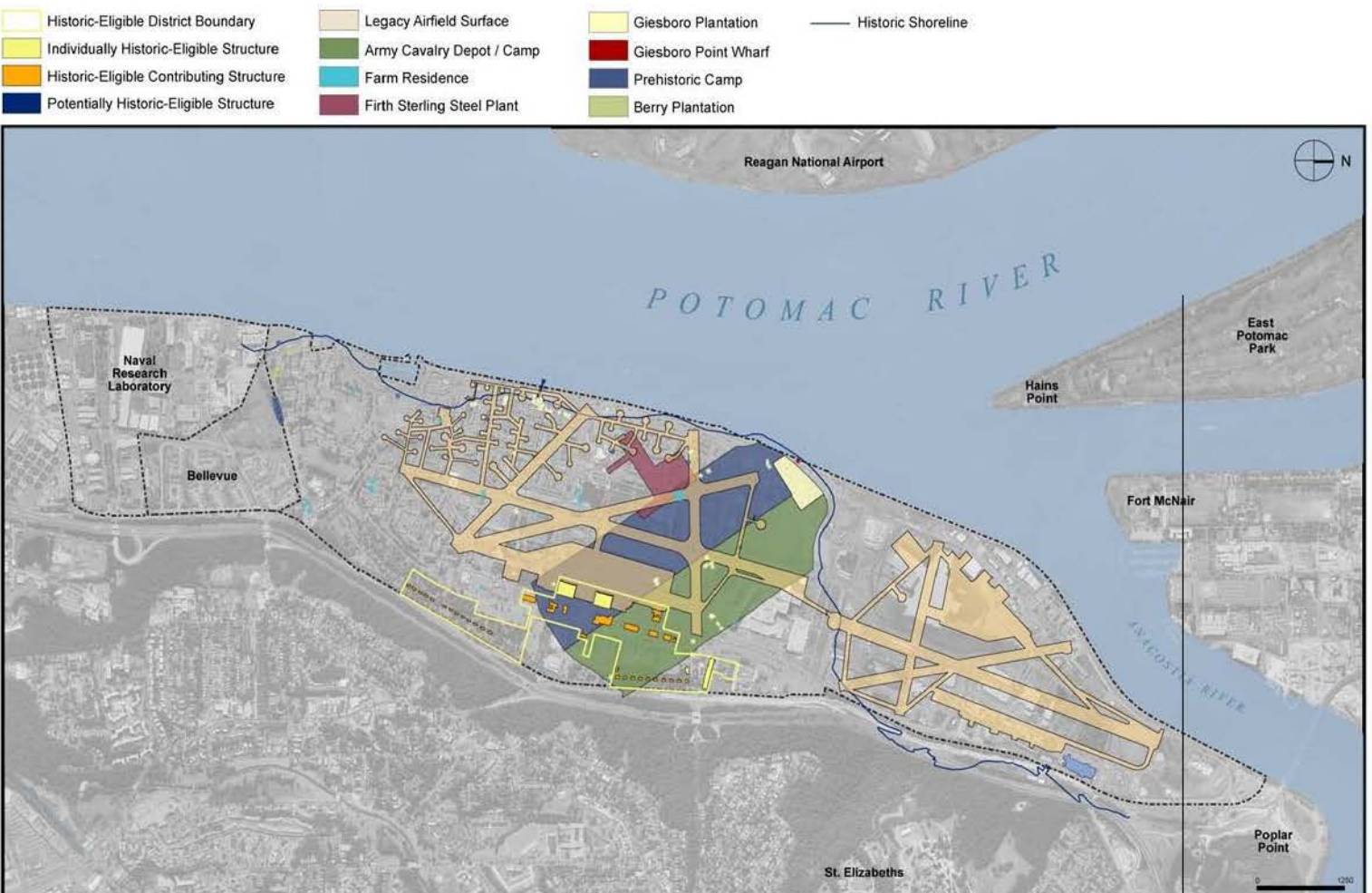
Historic Use	Present Use	Building(s)	Year
Hangar 1	USAF Band	1	1939
Hangar 2	Readiness Center	2	1939
Base Garage	Communications	3	1941
Photographic Laboratory	Multi-Administrative	4	1941
Fire Station and Guard House	Fire Station	5	1933
Electrical Substation	Post Office	10	1934
Quartermaster Maintenance Building	Education Center	11	1933
Quartermaster Warehouse	Services Division	12	1933
Air Corps Warehouse	Thrift Store/Family Support Center	13	1933
Post Exchange and Gymnasium	Fitness Center	15	1933
Base Communications	Military Personnel Flight	16	1942
Central Heating Plant	Heating Plant	18	1938
Air Corps Barracks and Parade	11th Wing Headquarters	20	1933
Base Dispensary	Housing Office	21	1933
Non-Commissioned Officers' Quarters	Officers' Quarters	22-32	1933
Electrical Substation	Electrical Substation	34	1933
Electrical Substation	Storage	36	1933
Electrical Substation	Storage	37	1943
Commissioned Officers' Quarters	Officers' Quarters	62-74	1933
Carport-Officers' Quarters	Carport-Officers' Quarters	402-407	1933
Headquarters Wing*	Demolished	410	1941
Education Center and Band Center*	Demolished	424-425	1943
Chapel	Chapel	431	1943
Carport-Officers' Quarters	Carport-Officers' Quarters	605-612	1933
Gazebos	Storage-Officers' Quarters	613-625	1934
Hazardous Storage	Storage	4629	1943
Hazardous Storage	Storage	4683	1943

**Demolished as allowed by the PMOA of 1986/1990*

Source: 2009 D.C. Inventory of Historic Sites, 1996 Bolling AFB CRMP and GIS data

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Figure 7: Joint Base Anacostia-Bolling Historic and Archaeological Resources



Four of the historic district's contributing buildings are also eligible for individual listing on the NRHP and are described below:

Building 1 – Hangar 1

Building 1 is now the Readiness Center, but it was built in 1939 as one of the original Bolling Field aircraft hangars. Hangar 1 is located at the intersection of Brookley Avenue and McChord Street on the northwest side, directly opposite Hangar 2. It features red brick and concrete trim, large corner piers, and telescoping hangar doors. The segmental arched roofs are supported on bowstring trusses, which is typical of Army hangars constructed after 1934. One of the corner piers of the hangars originally supported a control tower. But soon after the construction of these hangars, the larger corner piers were removed from the standard Army design.



Photo: Building 1 – Hangar 1

Building 2 – Hangar 2

Building 2 houses the United States Air Force Band and was built in 1939 as one of the original Bolling Field hangars. Hangar 2 is located at the intersection of Brookley Avenue and McChord Street on the southwest side, directly opposite Hangar 1. It also features red brick and concrete trim, large corner piers, and telescoping hangar doors. The segmental arched roofs are supported on bowstring trusses, as described for Building 1.



Photo: Building 2 – Hangar 2

Building 20 – Air Corps Barracks and Parade Ground

Building 20 was constructed in 1933 as a large consolidated brick barracks for enlisted personnel. It was the first building erected on the new Bolling Field. It is located at the entrance to present-day Bolling AFB near the intersection of MacDill Boulevard and Brookley Avenue. It is the most architecturally elaborate building from this period of time with a broad 49-bay front, center entrance marked by a grand Ionic portico in limestone and cross-gabled end pavilions marked by brick pilasters and side pediments of similar scale. A large porch extends across the central portion of the façade on either side of the main portico. The building appears 2.5 stories on the east end and 3.5 stores on the west due to sloping ground. It now hosts office space for the USAF 11th Wing Headquarters.



Photo: Building 20

Building 21 – Base Dispensary

Building 21, originally the Flight Surgeon's dispensary and the second building constructed on Bolling Field, is now a base housing office. It is a small 1.5-story hip-roofed rectangular building with octagonal end pavilions, gabled dormers and prominent chimneys. It is located directly opposite Building 20 at the main entrance to Bolling Air Force Base across MacDill Boulevard.



Photo: Building 21

NSF Anacostia Historic Buildings

NSF Anacostia does not have any NRHP-eligible buildings on the 2009 D.C. Inventory of Historic Sites. However, it is anticipated that sometime in early 2010 the DCHPO and the Navy will concur that Buildings 168 and 169 should be considered NRHP-eligible buildings. These buildings are described below:

Building 168 – Photographic Lab

Building 168 was built in 1942 as a photographic lab and is now known as the Naval Media Center. It is located next to the Fifth Sterling Gate off of Defense Boulevard. The building is notable due to its age and its role in the history of NSF Anacostia as a photographic laboratory built to experiment with and further develop photographic technology as well as to provide space for directing, editing and shooting motion pictures.



Photo: Building 168

Building 169 – Heating Plant

Building 169, also built in 1942, is directly adjacent to Building 168. It is known as Heating Plant #2 and has historically provided heating service to Building 168.



Photo: Building 169

3.2.3 Visual Resources

This section documents the existing visual character of Joint Base Anacostia-Bolling and the surrounding area. The study area for visual resources was determined by estimating the visibility of the installation to viewers from public places. The installation is bordered by South Capitol Street and I-295 to the east; the Anacostia and Potomac Rivers to the west; Bellevue Naval Housing Complex, Naval Research Laboratory (NRL) and Blue Plains Wastewater Treatment Plant to the south; and South Capitol Street and the Frederick Douglass Memorial Bridge to the north. The Joint Base installation, Bellevue Naval Housing Complex and NRL are secure areas, so the general public does not have access to these properties. However, as a result of its geographic location, the base does feature views both to and from areas across the rivers such as Indigo Landing Marina, the Mount Vernon Trail, Hains Point/East Potomac Park, Buzzard Point and the Frederick Douglass Memorial Bridge—plus from Malcolm X Avenue to the east of the Joint Base. Portions of the installation can also be seen from South Capitol Street, Overlook Avenue and I-295. The clearest views to and from the base are mostly afforded from the open space areas on the western and northern edges of Joint Base Anacostia-Bolling. The visual character described in the following section is a general characterization of the roadways, buildings, open space and natural features of the installation.

Existing Visual Environment

Joint Base Anacostia-Bolling has historically operated as two bases under two different commands with two distinct missions, functions and appearances. Bolling AFB is home to the 11th Wing, the Chief's Own, and is considered a showcase installation by the Air Force. NSF Anacostia is designated as a support facility by the Navy and used to house a number of light industrial functions that require storage space or larger areas for secure tenant activities. As a result, the southern and northern ends of the base exhibit decidedly different visual contexts.

Near the southern boundary of the base sits Bellevue Naval Housing Complex. This area consists of two-story, modern, family housing with front-loading garages and yards. The housing is laid out in a typical suburban neighborhood pattern with houses surrounding cul-de-sacs. Bellevue is visible from portions of Overlook Avenue and I-295.

Bolling AFB features a broad range of buildings contributing to a varying visual environment. Historic two-story brick homes line the majority of Westover Avenue near the base's eastern perimeter. Some of these buildings are visible from portions of Overlook Avenue, South Capitol Street and I-295 between the trees depending on the season and the elevation of the roadways. Modern, two-story family housing occupies a large area of land between Chappie James Boulevard and the western shoreline, between Arnold Avenue and MacDill Boulevard. This housing is often visible from public viewing points across the Potomac River because the shoreline is generally clear of obstructions such as trees. Older, two-story suburban-style family housing occupies land south of Angell Street to McGuire Avenue, but generally is not visible from public viewing points across the river. Furthermore, this housing is slated for demolition. The mission services, operations and administrative core of Bolling Air Force is centered on Brookley Avenue and McChord Street. Brookley Avenue is generally compact in scale, with buildings set closer to the street and in relation to one another. Area buildings vary in size and age from smaller one- and two-story historic buildings to two- to four-story contemporary buildings with the exception of one large, nine-story barracks built in the 1960s—Blanchard Barracks—that dominates the skyline above this portion of the base.



Photo: Historic houses on Westover Avenue

The center of Bolling AFB just north of MacDill Boulevard marks the beginning of a visual transition. Near Arnold Gate sits a small and orderly formal campus along the eastern perimeter that has a number of historic and non-historic two- to three-story brick buildings organized around ceremonial grounds. This area is visible from portions of South Capitol Street and I-295. Directly west of this small campus is the DIA building—a sprawling, six story modern facility with support structures. This building is another visual magnet due to its large mass and scale, dominating the skyline above the base.



Photo: Blanchard Barracks

NSF Anacostia installation boundaries begin north of the DIA building. NSF Anacostia is generally characterized by large, interspersed buildings separated by wide open spaces with small landscaped areas and large surface parking lots. Due to the operations these buildings house, they are often industrial or utilitarian in their design and material construction (reinforced concrete, metal frame and brick). The buildings typically range in size from one- to three-stories in height, creating a fairly low-scale visual context currently unpunctuated by a dominant building like Blanchard Barracks or the DIA building. There are several old, deteriorated hangars close to the western shoreline near the floodwall. Two secure tenant facilities also sit near the shoreline. These structures are visible from some public viewing points across the Anacostia and Potomac rivers. There are also three brick buildings that sit near the western shoreline—Enterprise Hall, a new barracks and a galley—that feature similar design characteristics and provide a small pocket of visual consistency in size, scale and materials. The very northern tip of the installation is characterized by a new, one-story brick building surrounded by several athletic fields. This creates an open visual context in the northernmost portion of the base.

Major Public Views to Joint Base Anacostia-Bolling

Indigo Landing Marina

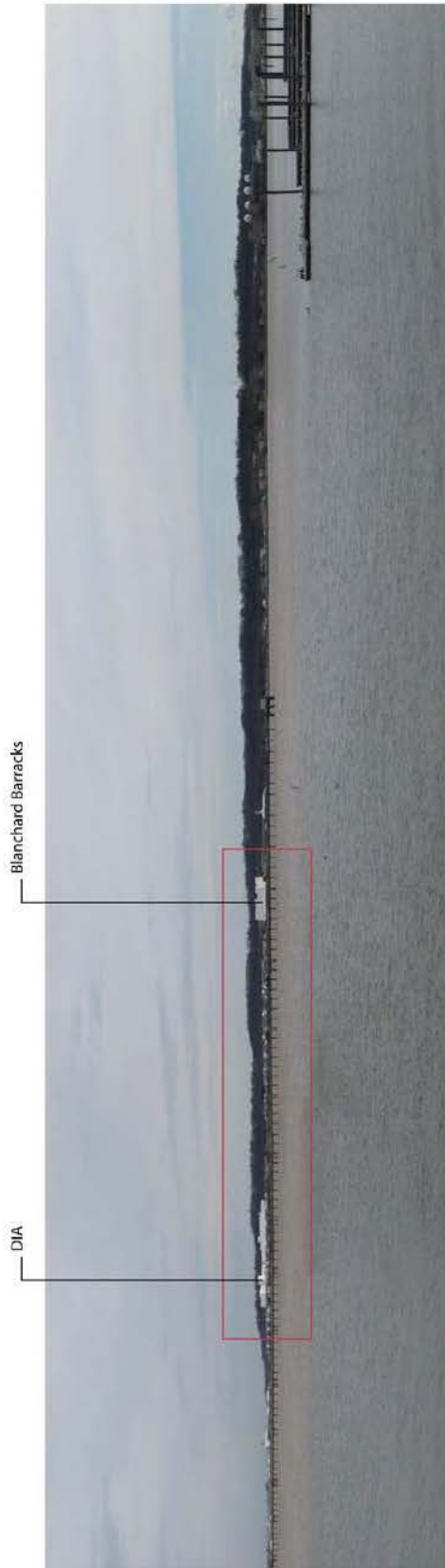
Indigo Landing Marina is located directly across the Potomac River from Bolling AFB. The Naval Research Lab, shoreline housing, Blanchard Barracks and the DIA building are visible. However, Reagan Washington National Airport has a pier extending south into the Potomac River—obscuring the clarity of structures to the ground-level viewer. A consistent tree line extends along the length of Joint Base Anacostia-Bolling in the background above the base.



Key Map



Central View (2x zoom)

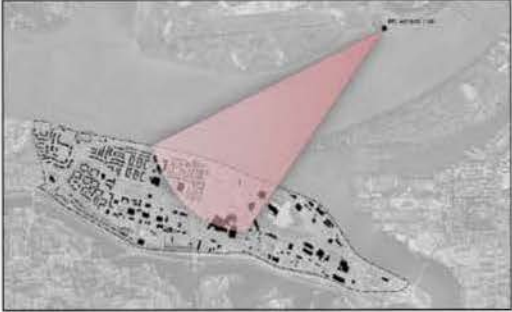


Panoramic View from Indigo Landing

Mount Vernon Trail

The Mount Vernon Trail is an 18 mile, multi-use recreation trail for pedestrians and cyclists that follows the Potomac River and links George Washington's Mount Vernon home in Virginia to Washington D.C. The trail often delivers unobstructed views of the river across to Maryland and Washington D.C. Directly north of Reagan Washington National Airport is a portion of the trail that features a direct view of Joint Base Anacostia-Bolling. A number of buildings are visible including shoreline housing, Blanchard Barracks, the DIA building, one of the Secret Service buildings and the HMX-1 Airfield facility. Blanchard Barracks and the DIA act as clear visual magnets due to their size and height. However, the northern NSF Anacostia portion of the base is obscured by Hains Point/East Potomac Park's jutting out into the waterway. A consistent tree line extends along the length of Joint Base Anacostia-Bolling in the background above the base with a slight interruption by two smoke stacks and a structure on the St. Elizabeths property.

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Key Map



Central View (2x zoom)



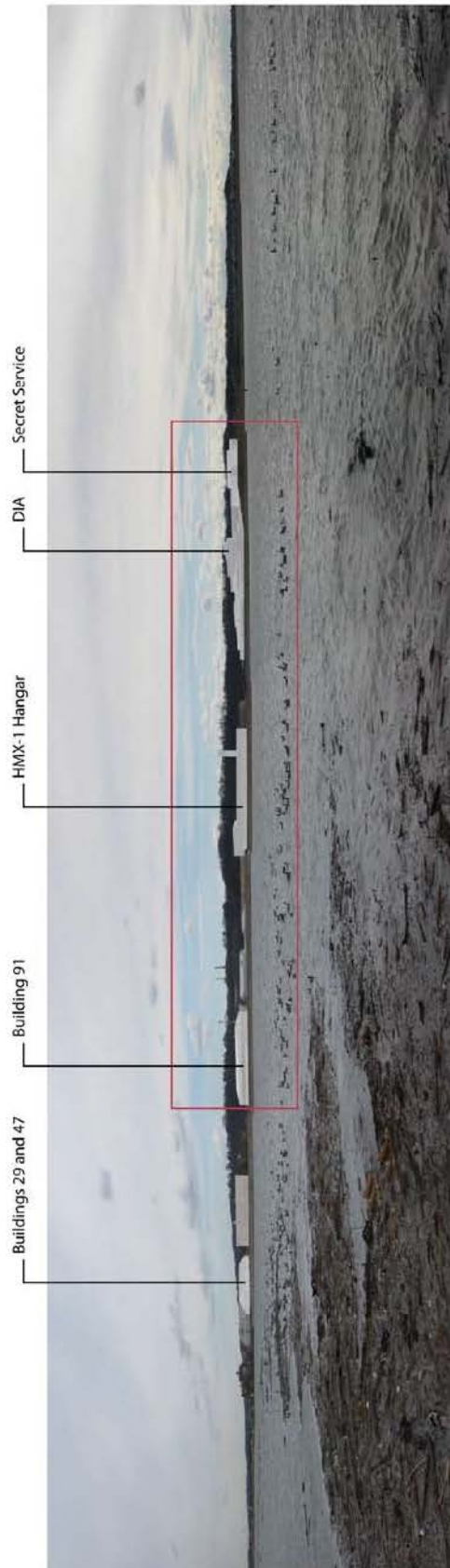
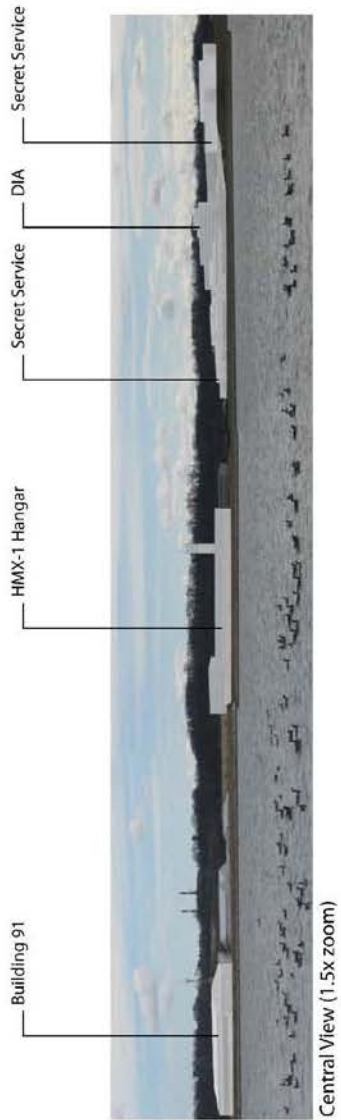
Panoramic View from Mount Vernon Trail

1539 **Hains Point/East Potomac Park**

1540 Hains Point/East Potomac Park provides an expansive panoramic view of Joint Base Anacostia-
1541 Bolling from buildings such as the White House Communications building in the north to
1542 shoreline housing in the south. A consistent tree line extends along the length of Joint Base
1543 Anacostia-Bolling in the background above the base with a slight interruption by two smoke
1544 stacks on the St. Elizabeths property.
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Key Map



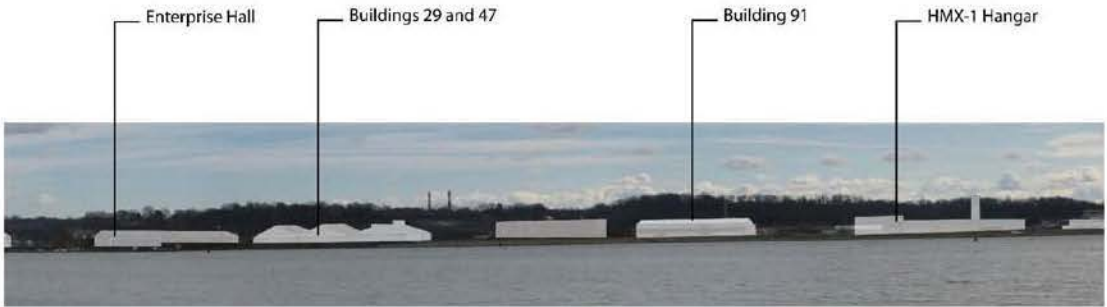
Panoramic View from Hains Point

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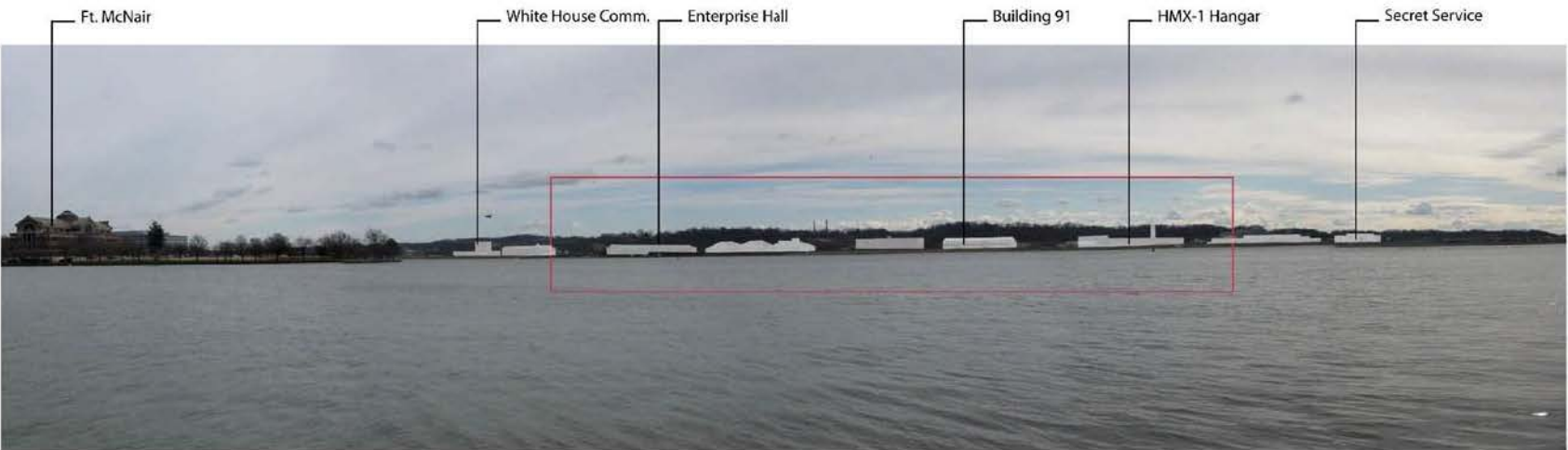
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Key Map



Central View (1.5x zoom)



Panoramic View from East Potomac Park

1568 **Buzzard Point**

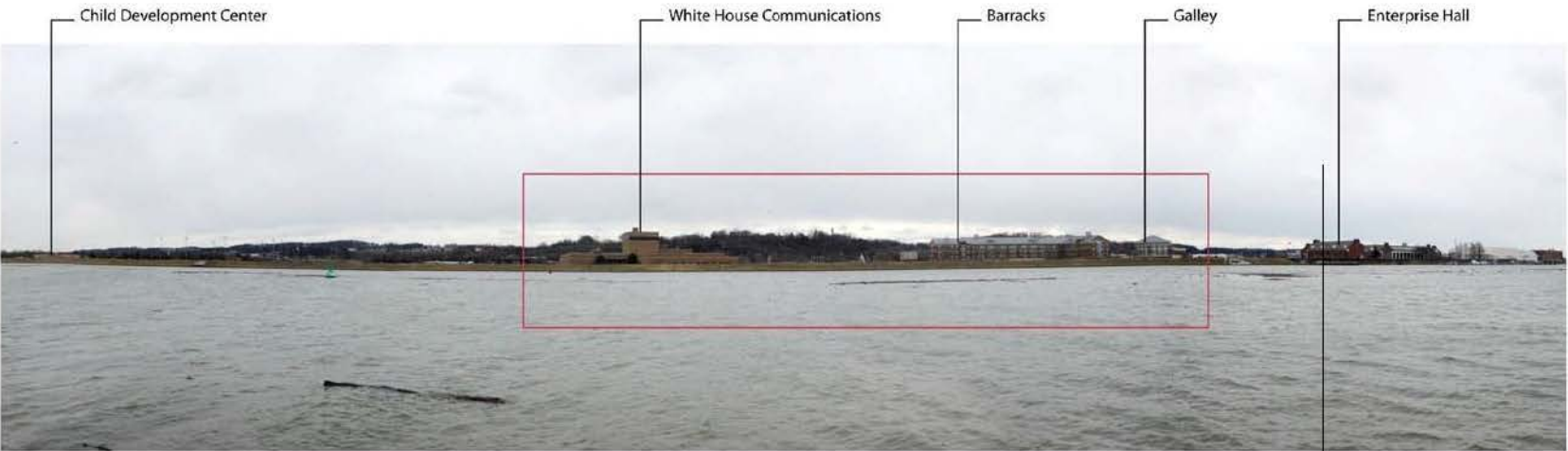
1569 This spot in southwest, Washington D.C. offers the closest view of the northern tip of Joint Base
1570 Anacostia-Bolling. The athletic fields and lights, White House Communications building, new
1571 dormitory, galley, Enterprise Hall and hangars are all visible above the earth levee and
1572 floodwall. The tree line that extends along the length of Joint Base Anacostia-Bolling in the
1573 background above the base is difficult to see the farther south one looks due to the viewing
1574 angle. The tree line is visible from the White House Communications building, looking north.
1575 Within the tree line to the north, viewers can see multi-family housing as well as the two smoke
1576 stacks on the St. Elizabeths property.
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Key Map



Central View (1.5x zoom)

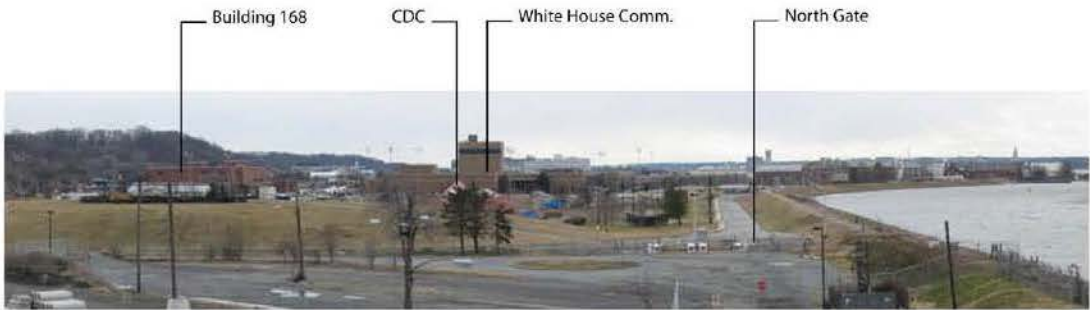


Panoramic View from Buzzard Point

1579 **Frederick Douglass Memorial Bridge (South Capitol Street Bridge)**
1580 The bridge features an unobstructed view of South Capitol Street running south, NSF
1581 Anacostia's northern buildings and the earth levee shoreline. The Naval Media Center building,
1582 White House Communications building, the new dormitory, galley and Enterprise Hall can all be
1583 seen. The DIA building is visible farther to the south due to its height and scale. Old Town
1584 Alexandria's Masonic Temple is seen rising in the distant skyline. The roofs of Barry Farms
1585 housing and the two St. Elizabeths smoke stacks can also be seen through the tree line.
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Key Map



Central View (2x zoom)



Panoramic View from South Capitol Street Bridge

Malcolm X Avenue

Malcolm X Avenue features a view from the hills above the Joint Base, through Arnold Gate and across to Reagan National Airport and to Crystal City in the background. The I-295 overpass obstructs clear views of the Bolling side of the base but the professional appearance of Arnold Gate with its manicured grounds is still seen, as is a portion of family housing close to the Potomac River. Across the river, the runways of Reagan National Airport are visible as well as the high-rise buildings of Crystal City. This view does change depending on the elevation of the viewer and distance from the Joint Base.



View of Joint Base Anacostia - Bolling and beyond from Malcolm X



Key Map



View of Arnold Gate from Malcolm X and I-295

Lesser Public Views to Joint Base Anacostia-Bolling

South Capitol Street

This roadway features views of Joint Base Anacostia-Bolling, particularly in the north as it parallels the NSF Anacostia eastern boundary. Since the northern end of the base is bordered by a wire fence and the roadway sits at a similar elevation, base facilities such as the athletic fields are visible by the passerby. South of the Firth Sterling Gate and the Naval Media Center, the fence is accompanied by trees and shrubs—obstructing the view of many buildings on the installation. Bolling AFB features a brick boundary fence that adds to the screening. However, the upper levels of facilities such as the 11th Wing Headquarters in Building 20 and several historic homes on Westover Avenue are sometimes visible from the roadway.

Overlook Avenue

When South Capitol Street veers away from the installation, the passerby must travel south along Overlook Avenue in order to access the South Gate of Joint Base Anacostia-Bolling, Bellevue Naval Housing Complex and the Naval Research Laboratory. Overlook Avenue provides intermittent views of historic housing on Westover Avenue and a clear view of the homes contained within the Bellevue Naval Housing Complex.

1-295

Similar to South Capitol Street, I-295 offers some views of Joint Base Anacostia-Bolling as it parallels the installation's eastern boundary. Typically, the roadway sits at a higher elevation than the base and the views are more apparent traveling southbound due to the proximity of these lanes to the installation. The majority of the base is visually obstructed by trees, but some buildings such as the 11th Wing Civil Engineering Squadron building, DIA building, Arnold Gate, the Officers Club, Blanchard Barracks, several Westwood Avenue homes and the Bellevue Naval Housing Complex are momentarily visible through gaps in the tree line.

3.3 TRANSPORTATION

Joint Base Anacostia-Bolling is primarily accessed by base users, visitors and residents using personal motor vehicle, or, less frequently using mass transit. Due to the isolated location of the installation between major roadways to the east and the Anacostia and Potomac rivers to the west, access to the site occurs only from the west. The area also lacks easy and safe walking and/or biking paths to the base so pedestrian and bicycle access are very limited. The study area for transportation is defined as the area within the Joint Base Anacostia-Bolling installation boundaries and adjacent roadways. This section of the EA documents the transportation resources that are present or available on Joint Base Anacostia-Bolling. This information was gathered from: the Joint Base Anacostia-Bolling Transportation Management Plan (TMP), Washington Metropolitan Authority Transit Authority (WMATA) website, Maryland Transit Authority (MTA) website, District of Columbia Department of Transportation (DDOT) Streetcar website, the 2008 St. Elizabeths Transportation Management Program document, GIS data, and aerial photography.

3.3.1 ROADWAYS AND TRAFFIC

Regional and Local Roadways and Vehicular Access

Vehicular access to Joint Base Anacostia-Bolling is primarily via I-295 (Anacostia Freeway). This four- to six- lane freeway runs north-south along the eastern perimeter of the base and connects with the I-95/I-495 (Capital Beltway) freeway system to the south and the I-395 (Southeast Freeway)/MD 295 system to the north.

Additional local access to the base is provided by South Capitol Street—a four-lane arterial that parallels I-295—and Suitland Parkway—a four-lane arterial road that interfaces with these highways adjacent to Joint Base Anacostia-Bolling near Firth Sterling Avenue and runs eastward to Prince George's County. Malcolm X Avenue serves as the base's main east-west connection to neighborhoods and development to the east. This roadway is an east-west urban minor arterial that traverses I-295 and South Capitol Street.

The installation has three guarded gates that control vehicular access to the base: the South Gate off of Overlook Avenue, Arnold Gate (the main gate) at Malcolm X Avenue and the Firth Sterling Gate off of Firth Sterling Avenue. Arnold Gate and Firth Sterling Gate are accessed directly in both north and southbound directions via South Capitol Street. The South Gate is accessed directly in both directions via Overlook Avenue, but a vehicle cannot travel northbound past the South Gate on Overlook Avenue.

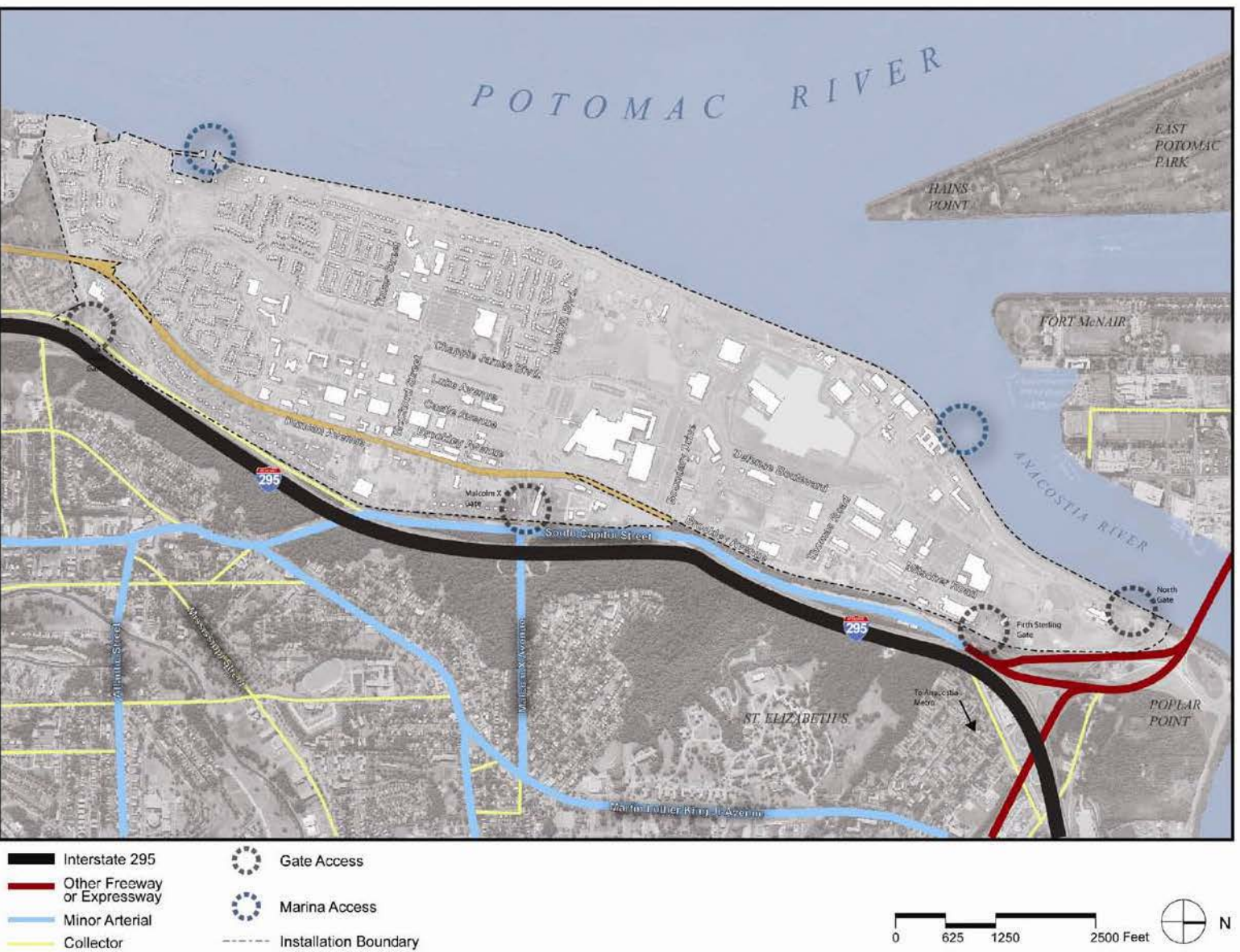
Traveling I-295 northbound, the base is reached via the Laboratory Road/US Naval Research Lab exit, Malcolm X Boulevard exit or Barry Road/Firth Sterling Avenue exit. Traveling I-295 southbound, the base is accessed by exiting at Suitland Parkway and turning onto Firth Sterling Avenue or exiting onto South Capitol Street prior to Malcolm X Avenue. There also is I-295 southbound access to the South Gate after Malcolm X Avenue via Overlook Avenue. This portion of the road is one-way southbound between Arnold Gate at Malcolm X Avenue and the South Gate off of Overlook Avenue.

I-295 and South Capitol Street also connect the site with the Naval District Washington Headquarters and Downtown Washington, D.C. via the 11th Street/Officer Kevin J. Welsh Memorial Bridge and South Capitol Street/Frederick Douglass Memorial Bridge.

Most of the regional arterial facilities cited above serve as major commuter routes for employees accessing the Central Employment Area of the District of Columbia, and the surrounding suburbs. These routes are heavily traveled, with some carrying volumes in excess of 40,000 vehicles daily.

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Figure 8: Joint Base Anacostia-Bolling Access By Roadways



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Existing Traffic Conditions

External Roadways

To determine existing traffic conditions for key external intersections in the vicinity of the Joint Base, five intersections were analyzed to determine their current operational levels of service (LOS). LOS is a measurement of traffic flow in terms of speed and travel time, freedom to maneuver, comfort, and convenience. LOS can act as an effective indicator of the roadway's ability to accommodate current travel demand and its ability to handle future travel demand. LOS uses a sequence of letters from A through F to describe the quality of operational conditions within an intersection or a roadway link. LOS A represents the best operating conditions and LOS F the worst. The District uses LOS D as the lower threshold of acceptability for planning purposes.

LOS for intersections is measured in terms of vehicle delay, with slightly different values for signalized and un-signalized intersections. The LOS for a signalized intersection reflects the average delay for the entire intersection or the delay for individual movements (turns). For un-signalized intersections, the LOS reflects the delay for side street traffic attempting to enter the mainline.

Table 4: LOS Definitions

<i>Signalized Intersections</i>		<i>Un-signalized Intersections</i>	
<i>LOS</i>	<i>Vehicle Delay (Seconds)</i>	<i>LOS</i>	<i>Vehicle Delay (Seconds)</i>
<i>A</i>	<i>Less than 10</i>	<i>A</i>	<i>Less than 10</i>
<i>B</i>	<i>>10-20</i>	<i>B</i>	<i>>10-15</i>
<i>C</i>	<i>>20-35</i>	<i>C</i>	<i>>15-25</i>
<i>D</i>	<i>>35-55</i>	<i>D</i>	<i>>25-35</i>
<i>E</i>	<i>>55-80</i>	<i>E</i>	<i>>35-50</i>
<i>F</i>	<i>More than 80</i>	<i>F</i>	<i>More than 50</i>

Source: O.R. George & Associates, Inc.

A considerable amount of traffic data was available from previous studies conducted for the Joint Base and the surrounding area. In addition, data were collected for key locations (intersections and roadway links) as part of the Joint Base Anacostia-Bolling Transportation Master Plan (TMP) study. This study covered five external intersections and seven internal intersections within the Joint Base. Current levels of service and available capacity were determined based on turning movement counts collected for this study in 2009¹. Peak period arrivals and departures varied slightly for the three gates and adjacent roadway intersections, but generally occurred between 6:45 – 8:00 a.m. and 3:45 – 5:15 p.m.

Table 5 presents a summary of level of service at key external intersections:

¹ Data provided in the Transportation Management Plan for Bolling Air Force Base Washington D.C. (Gannett Fleming) was also utilized.

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**Table 5: Summary of Capacity Analysis Results
External Intersections**

<i>Intersection</i>	<i>AM Peak Hour</i>		<i>PM Peak Hour</i>	
	<i>LOS</i>	<i>Delay (Seconds/Vehicle)</i>	<i>LOS</i>	<i>Delay (Seconds/Vehicle)</i>
1) South Capitol St. at Firth Sterling Ave. (Firth Sterling Gate)	C	32.4	D	47.5
2) South Capitol St. NB at Malcolm X Ave. (Arnold/Main Gate)	C	21.7	C	22.5
3) South Capitol St. SB at Malcolm X Ave. (Arnold/Main Gate)	C	31.4	C	32.7
4) Malcolm X Ave. at I-295* (Arnold/Main Gate)	E	36.4	B	14.1
5) Overlook Ave. at Chappie James Blvd. (South Gate)	B	17.6	B	17.2
6) Overlook Ave. at Chesapeake Rd. (near South Gate)	B	17.7	B	16.5

** Unsignalized Intersection (all others are signalized)*

Note: The DDOT standard is LOS D with an average control delay ranging between 35-55 seconds per vehicle for signalized intersections and between 25-35 seconds per vehicle for unsignalized intersections.

Source: O.R. George & Associates, Inc.

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As the table above indicates, all but one of the key intersections adjacent to Joint Base Anacostia-Bolling used for access to and from the base have a LOS of B, C, or D, which are above the minimum acceptable LOS level in both the AM and PM peak hours. The one exception is the Malcolm X Avenue and I-295 intersection used to access Arnold Gate (the main gate), which has a LOS of E in the AM peak hour.

Furthermore, the distribution of trips accessing the base is largely oriented to the freeway system (i.e. to/from I-295), with the following generalized distribution pattern:

**Table 6: Generalized Distribution Pattern
AM Peak Period (6:45 - 8:00 a.m.)**

Route	Percentage
1-295 (to/from South)	42%
I-295 (to/from North)	36%
South Capitol St. (to/from South)	7%
South Capitol St. (to/from North)	9%
Suitland Parkway (to/from East)	6%
Total	100%

Source: O.R. George & Associates, Inc.

Internal Roadways

One continuous road, named Defense Boulevard to the north and Chappie James Boulevard to the south, connects the Firth Sterling Gate to the South Gate and is the primary north-south traffic spine through Anacostia-Bolling. MacDill Boulevard acts as the primary east-west route connecting the Arnold Gate to Chappie James Boulevard. Defense/Chappie James Boulevard and MacDill Boulevard are the primary collector roads on base.

Brookley Avenue is a secondary street which also traverses both installations in a north-south pattern. Other key secondary roadways serving the base include McChord Street, and Tinker Street, which run east-west, and Mitscher Road, Duncan Avenue and Angell Street, which run north-south. All roadways serve two-way traffic.

Other roadways within the installation are generally of a local/"sub division" type within the residential zones. These are located generally to the south of Chappie James Boulevard.

Table 7 below presents the LOSs for seven key primary and secondary intersections within the installation.

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**Table 7: Summary of Capacity Analysis Results
Internal Intersections**

<i>Intersection</i>	<i>AM Peak Hour</i>		<i>PM Peak Hour</i>	
	<i>LOS</i>	<i>Delay (Seconds/Vehicle)</i>	<i>LOS</i>	<i>Delay (Seconds/Vehicle)</i>
1) Defense Blvd. at DIA Access Rd.	B	10.06	A	9.62
2) Brookley Ave. at McChord St.	A	8.92	A	8.91
3) Defense Blvd. at Thomas Rd.	B	12.1	B	11.6
4) Defense Blvd. at Mitscher Rd.	D	34.2	D	31.3
5) MacDill Blvd. at Brookley Ave.*	C	26.7	C	26
6) MacDill Blvd. at Chappie James Blvd.*	C	23.9	C	22.1
7) Chappie James Blvd. at Duncan Ave.	B	12.18	A	9.37

** Signalized Intersections (all others un-signalized)*

Note: The D.C. standard is LOS D with an average control delay ranging between 35-55 seconds per vehicle for signalized intersections and between 25-35 seconds per vehicle for unsignalized intersections.

Source: O.R. George & Associates, Inc.

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As the table above indicates, the key intersections within Joint Base Anacostia-Bolling used to traverse the base are above the acceptable threshold for LOS in both the AM and PM peak hours. The lowest internal LOS is the Defense Boulevard and Mitscher Road intersection near the Firth Sterling Gate. This is most likely due to the existing design of the intersection and the gate facility.

Travel Mode Splits

A travel mode split indicates the means by which users reach their destination, in this case, Joint Base Anacostia-Bolling. Surveys of vehicle and pedestrian activity at the three gates during the weekday peak periods showed the following travel mode splits:

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Table 8: Travel Mode Splits

<i>Travel Type</i>	<i>Percentage</i>
Single-Occupant Vehicle	75%
Carpool and Vanpool (multi-occupant vehicles)	12%
Shuttle	11%
Pedestrian, bicycle, and public (Metrorail and Metrobus) transit	2%
Total	100%

Source: O.R. George & Associates, Inc.

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1856 The vast majority of Joint Base Anacostia-Bolling users access the base via single-occupant
1857 vehicle (automobile). This is largely the result of the base's isolated location, its size
1858 (approximately 3.3 miles long which makes walking around the base time consuming), and
1859 general distance from nearby Metrorail stations.

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Existing Vehicular Gate Volumes

1861 The following table outlines the inbound and outbound movements at each of the gates during
1862 the morning and afternoon peak hours.

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Table 9: Summary of Existing Gate Volumes

<i>Gate</i>	<i>AM Peak Hour</i>		<i>PM Peak Hour</i>	
	<i>Inbound</i>	<i>Outbound</i>	<i>Inbound</i>	<i>Outbound</i>
Firth Sterling Gate	644	107	144	699
Arnold/Main Gate	1,460	242	279	1,383
South Gate	700	117	93	455
Total	2,804	466	516	2,537

Source: AECOM and O.R. George & Associates, Inc.

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1868 As the table indicates, the vast majority of vehicles access and depart the Joint Base via Arnold
1869 Gate.

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Truck Access

1871 Currently, trucks access Joint Base Anacostia-Bolling via the South Gate in order to undergo
1872 truck inspection before traversing the base to reach their ultimate destination. Typically, these
1873 destinations include the Base Exchange, Base Commissary or industrial facilities in the north
1874 end of the installation. Trucks may exit any gate.

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Table 10: Truck Access

Gate Location	AM Peak Hour varies by gate*		AM Peak Period 6:30-9:30 a.m.		PM Peak Hour varies by gate*		PM Peak Period 3:00-6:00 p.m.	
	In	Out	In	Out	In	Out	In	Out
South Gate**								
Delivery/Panel Trucks	36	5	62	11	4	4	11	9
Heavy Trucks***	6	2	8	5	1	2	3	4
Total	42	7	70	16	5	6	14	13
Main Gate								
Delivery/Panel Trucks	0	0	0	14	0	5	4	6
Heavy Trucks**	0	0	0	3	0	2	0	3
Total	0	0	0	17	0	7	4	9
Firth Sterling Gate								
Delivery/Panel Trucks	0	4	2	7	1	0	1	1
Heavy Trucks***	0	0	0	1	0	0	0	0
Total	0	4	2	8	1	0	1	1
Grand Total	42	11	72	41	6	13	19	23

*Note: Peak hour varies by gate. The data shown reflects the heaviest one-hour during AM and PM periods.

* *All trucks must enter the South Gate for inspection.

***Trucks of three axles or greater.

Source: O.R. George & Associates, Inc.

1886

1887 Truck counts indicate that the South Gate experiences the heaviest truck traffic due to base
1888 regulations for truck inspections. According to this table, eight heavy trucks entered the base
1889 through the South Gate during the AM peak period (6:30 – 9:30 a.m.) and seven heavy trucks
1890 exited through Arnold Gate or the South Gate during the PM peak period (3:00 – 6:00 p.m.).
1891 This is likely due to these gates' easy access to adjacent I-295 versus the current road
1892 configuration near the Firth Sterling Gate.

1893

1894 3.3.2 PARKING

1895

1896 The total number of parking spaces on Joint Base Anacostia-Bolling overall is sufficient
1897 to meet the demand. The table below illustrates the current base population, number of
1898 parking spaces available and the parking ratio (spaces per employee):

1899

1900

Table 11: Existing Base Population and Parking

1901

	Base Population	Base Parking Spaces	Parking Ratio
Existing	13,209	7,980	1:1.66

Source: AECOM

1902

1903 The challenge for the Joint Base is the perception of insufficient parking across the
1904 installation due to tight supply in certain sub areas. Specifically, parking is less available
1905 around the DIA facility which is located on Bolling AFB near the border with NSF

Anacostia. The duty hours for DIA personnel begin around 0600 hours (6 a.m.). At these early hours, DIA personnel are able to occupy many parking spaces in the vicinity of their building. This includes parking areas originally intended for other facilities such as that for Buildings 5681 and 5683, two administrative facilities on Bolling AFB across MacDill Boulevard from the DIA complex. Given the large number of DIA personnel (approximately 7,000 employees) this is a significant issue for the sub area.

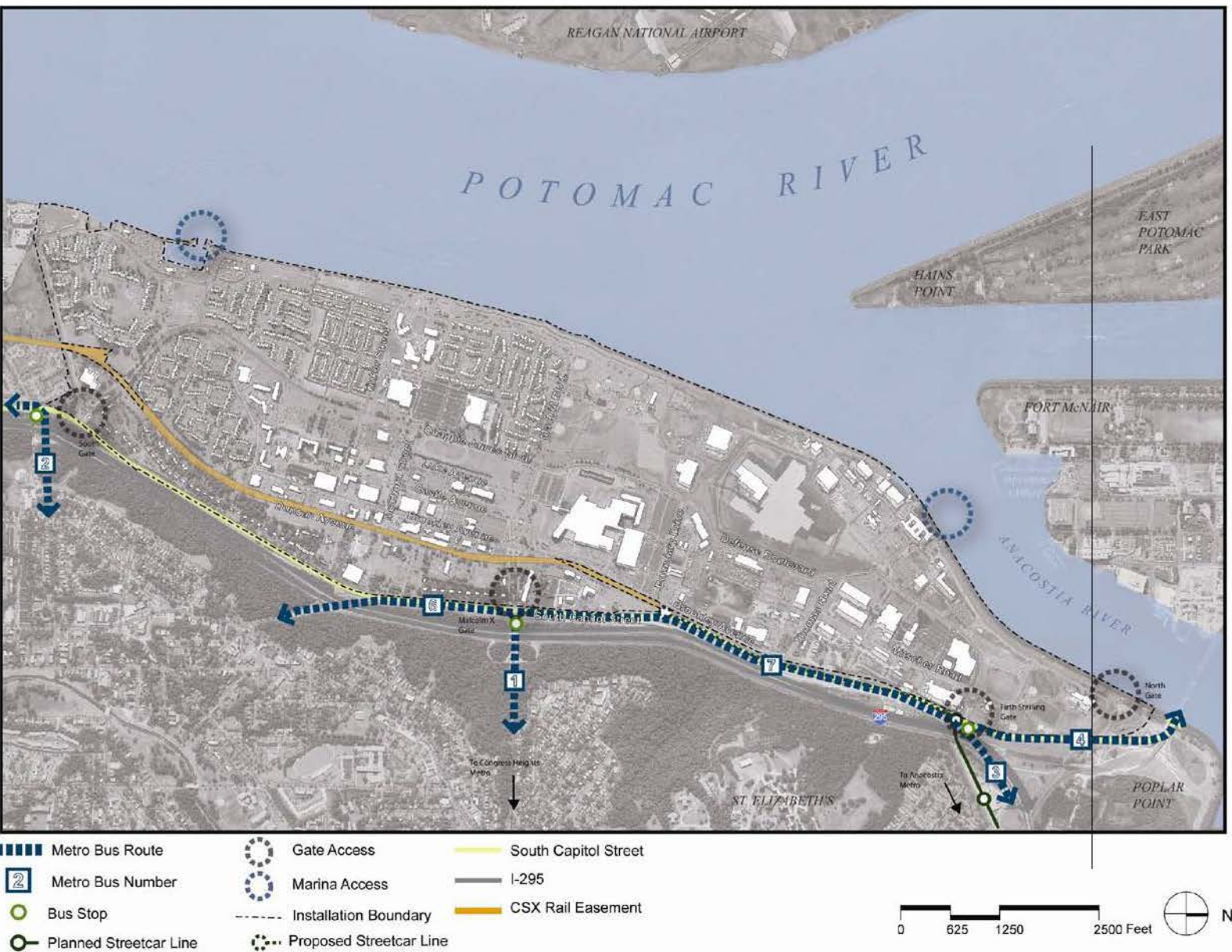
DIA parking requirements are such that they negotiated an agreement with the Base Exchange to use the Exchange customer parking located closest to Chappie James Boulevard. This parking lot is about one-half mile away from the DIA front door. Further DIA parking has been designated on the Anacostia side within the two parking structures, Building 357 and 358. A DIA shuttle bus stops at this designated parking structure to facilitate employee use of this parking supply. However, this parking structure is apparently never used to full or near full capacity. The real and perceived level of insufficient parking close to work locations is felt around the installation. For instance, personnel who fear losing their parking spots will not leave their place of work to drive somewhere for lunch.

In other portions of the base, parking is abundant and surface parking lots are virtually never filled to capacity.

3.3.3 PUBLIC TRANSPORTATION

Joint Base Anacostia-Bolling is located in an area that is poised for growth over the next 10-20 years as a result of planned waterfront development, revitalization and new federal employment centers. As the region continues to grow, mass transit will play an important role in supporting commuters, providing accessibility to the installation and giving base employees an alternative to driving a single-occupant vehicle.

Figure 9: Joint Base Anacostia-Bolling Public Transportation Connections



WMATA Metrorail and Metrobus Service

Access to the base is provided by the Washington Metropolitan Area Transit Authority (WMATA) rail and bus systems. The Anacostia Metrorail station, on the Green Line, is located along Howard Road, approximately ½ mile east of the Firth Sterling Gate. The Congress Heights Metrorail station, on the Green Line, is located on Alabama Avenue, approximately 1½ miles east of Arnold Gate. During the work week, Metrorail operates from 5 a.m. until midnight Monday – Thursday and from 5 a.m. until 3 a.m. on Friday (early Saturday morning). During morning and evening rush hours Metro offers frequent service; during off-peak hours service is about every 12 minutes.

Despite the relative proximity of the Anacostia Metrorail station to the Firth Sterling Gate, it is practically inaccessible by walking. This is due to the lack of sidewalks and crosswalks to the Anacostia Metrorail station. Furthermore, Metro police report that the Anacostia station has one of the highest crime rates for stations in the entire system.

Several Metrobus routes pass by Joint Base Anacostia-Bolling along South Capitol Street. Four of the routes are local and three of the routes are express with limited boarding or alighting. Additionally, there are two Metrobus routes that service the Naval Research Lab and Bellevue Naval Housing area south of the joint base. Finally, there are two additional routes (W2, W3) that serve area neighborhoods and the Metrorail stations which include stops near Arnold Gate off of Malcolm X Avenue and near the Firth Sterling Gate off of Firth Sterling Avenue. Metrobus hours vary by bus route. For more information see Table 12.

Table 12: Joint Base Metrobus Routes

<i>Route</i>	<i>Name</i>	<i>Origin</i>	<i>Destination</i>
A9	South Capitol Street Line	Livingston	L'Enfant Plaza Metrorail Station
W2, W3	United Medical Center-Anacostia Line	United Medical Center	Washington Overlook
W4	Deanwood-Alabama Ave. Line	Capital Plaza	Anacostia Metrorail Station
W13(E)	Brock Road Line	Friendly	Anacostia Metrorail Station
W14	Brock Road Line	Friendly	Anacostia Metrorail Station
P17(E)	Oxon Hill-Fort Washington Line	Fort Washington Park & Ride Lot	Farragut Square Metrorail Station
P18	Oxon Hill-Fort Washington Line	Fort Washington Park & Ride Lot	Anacostia Metrorail Station
P19(E)	Oxon Hill-Fort Washington Line	Fort Washington Park & Ride Lot	Farragut Square Metrorail Station
A4*	Anacostia-Fort Drum Line	DC Village	Anacostia Metrorail Station
A5**	Anacostia-Fort Drum Line	DC Village	Anacostia Metrorail Station

(E) Express Route - Only alighting allowed north of the Beltway line in the a.m. and boarding allowed north of the Beltway line in the p.m.

* This route services Naval Research Lab and Bellevue Naval Housing

** This route services Naval Research Lab, Blue Plains Wastewater Treatment Plant and Bellevue Naval Housing

Source: WMATA Website

MTA Commuter Bus

The Maryland Transit Administration (MTA) provides express bus service (No. 907) from Charles County to Washington D.C. with scheduled stops at the Naval Research Lab south of Joint Base Anacostia-Bolling and at Arnold Gate. However, the service is not heavily used by base personnel.

Shuttle Service

The Joint Base is currently served by seven shuttle routes that are operated separately by the Navy, the Air Force and DIA. These shuttles connect the Joint Base with other DoD agency offices and Metrorail stations within the area. These routes are summarized in Table 13.

Table 13: Department of Defense Shuttle Bus Routes

<i>Shuttle Route</i>	<i>Operating Agency</i>	<i>Route Connections</i>	<i>Schedule</i>
Route #12	Navy	DIA to Navy Annex to Washington Navy Yard	6:20 a.m. - 5:05 p.m. 60 minute headways
Route #15	Air Force	Bolling to Navy Annex to Pentagon	7:00 a.m. - 4:53 p.m. 60 minute headways
Route #16	DIA	Langley to Clarendon to Pentagon to DIA	6:30 a.m. - 5:10 p.m. 75 minute headways
DIA - L'Enfant Plaza Metrorail VRE Station	DIA	DIA to L'Enfant Plaza Metrorail Station	6:45 a.m. - 9:50 a.m. and 3:45 p.m. - 9:00 p.m. 30 minute headways
DIA - Anacostia Metrorail Station	DIA	Anacostia Metrorail Station	6:45 a.m. - 9:50 a.m. and 3:45 p.m. - 9:00 p.m. 30 minute headways
DIA - Parking Shuttles	DIA	North Parking garages	5:00 a.m. – 9:00 p.m. Continuous
Bolling-Anacostia Metrorail Station	Navy/Air Force	Bolling AFB to Navy Annex to Anacostia Metrorail Station	6:00 a.m. - 8:30 a.m. and 3:30 p.m. - 6:00 p.m. 20 minute headways

Source: O.R. George & Associates, Inc.

Currently, only DIA personnel are allowed to use most DIA shuttles, thereby limiting potential ridership. The one exception is the DIA-Anacostia Metrorail station shuttle. From January 19-February 19, 2010, the DIA opened its shuttle service from the DIA building to the Anacostia Metrorail station to anyone with a DoD identification card for a month-long trial basis. The open service has continued since the trial but no decision regarding its permanency has been made as of May 2010.

Furthermore, shuttle services to other DoD sites are infrequent with most routes experiencing 60-75 minute headways. This could result in more Joint Base personnel opting to use their personal vehicles to access other DoD sites for meetings or visits rather than the available shuttle service. Or, in the case of the shuttle that conveniently runs from Joint Base Anacostia-Bolling to the Anacostia Metrorail Station route every 20-minutes during peak periods, the route

does not run from 8:30 a.m. to 3:30 p.m., dramatically reducing its usefulness. This mid-day break makes it challenging for personnel to access other parts of the base or capitalize on local mass transit during off-peak hours.

Anacostia Streetcar

The District of Columbia Department of Transportation (DDOT) has plans to install a city-wide streetcar system. Its early efforts include the Anacostia Streetcar project—a project that directly impacts Joint Base Anacostia-Bolling. The first phase of the project will serve Anacostia with a stop at the Firth Sterling Gate known as the “Navy Annex Stop” and a connection to the Anacostia Metrorail station. According to DDOT, the streetcar line will eventually extend across the Anacostia River over a new 11th Street/Officer Kevin J. Welsh Memorial Bridge and provide a connection with the Washington Navy Yard Metrorail stop. Work on the initial line segment that will serve the Joint Base is currently underway. The initial line segment is expected to be fully constructed and operational in 2012. The long-range plan for the D.C. streetcar system shows a second stop near the main gate of Bolling AFB in Phase 3 of its efforts. While the ability of the Anacostia Streetcar segment to shuttle a large portion of base users from the Anacostia Metrorail station to the base would be limited by its service capacity and past commuter behavior, it still will represent another transit option for base personnel.

Potomac River Commuter Ferry

Prince William County Transportation Planning Division is in the process of studying the feasibility of a commuter ferry that services points along the Potomac River from Prince William County to Washington D.C., including stops as far north as the Navy Yard/Nationals Pier. The study is an extension of a 1999/2000 VDOT study of passenger ferries. Test runs were conducted in May 2009 and according to the draft report released in August 2009 a commuter ferry service is a viable option. It will undergo closer study in terms of market viability for certain stops in early 2010. Should the commuter ferry project proceed, there may be an opportunity for Joint Base Anacostia-Bolling to benefit from the establishment of the service.

3.3.4 PEDESTRIAN/BICYCLE CIRCULATION

Pedestrian Trails

There is a paved path that runs nearly the whole length of the Potomac River on Joint Base Anacostia-Bolling. This trail sits along the levee on the northern end and accommodates a variety of passive and recreational uses such as jogging and walking. However, the northern portion currently lacks several amenities that encourage pedestrian activity such as site furniture for seating areas, trash receptacles for litter prevention, path lighting and screening of nearby buildings. The southern end of the trail features a paved path and boasts a number of pedestrian amenities such as lighting, seating, historical markers, recreational fields and communal facilities such as picnic pavilions and playgrounds in proximity.

Pedestrian Sidewalks

On the Bolling AFB side, sidewalks are provided throughout residential and administrative areas. Where crosswalks exist, many do not meet Americans with Disabilities Act (ADA) requirements. Furthermore, crosswalk treatments are inconsistent throughout the base. On NSF Anacostia, sidewalks are present in some areas of the base, but they are inconsistent and far less prevalent than those available on the Bolling side.

Bicycle Lanes and Bicycle Paths

The only bike lanes that are present on Joint Base Anacostia-Bolling are found on NSF Anacostia along Defense Boulevard, between Mitscher and Thomas Roads. The levee trail also can accommodate bicycle activity.

Off-base, there are a few bike paths found in the vicinity of Joint Base Anacostia-Bolling. There is a signed bike route northeast of the Joint Base that follows Howard Road to Poplar Point. There is an off-street multi-use trail that follows South Capitol Street and the Frederick Douglass Memorial Bridge and runs south toward Firth Sterling. However, the traffic conditions for biking along South Capitol Street near the perimeter of the base are rated as Fair to Poor, making it an unfavorable option for would-be cyclists.

3.3.5 TRANSPORTATION MANAGEMENT

Discussions with Navy, Air Force and DIA staff have indicated that the location of the Joint Base has presented significant constraint to implementation of transportation management program measures. This is primarily due to the isolation of the installation by I-295 (to the east) and the Anacostia and Potomac rivers (to the west and north). The Navy, Air Force and DIA have also noted that the historically segmented management of the installation has also been a constraint.

The following table describes what transportation management measures are currently in place on the base under separate administrative functions.

2112
2113

Table 14: Existing Transportation Management Program Measures

Transportation Management Program Measures	DIA	NSF Anacostia	Bolling AFB
1) Parking Management	No formal parking management in place. Most parking is secure. Reserved parking for vanpools.	No formal management program in place.	No formal management program in place.
2) Transit Subsidies (Smart Benefits)	Active program in place with 1,500 participants.	Active program in place with XXX participants.	Active program in place with 1,000 participants.
3) Shuttle Bus Service	Active program in place. Agency operates four shuttles.*	Active program in place. Service provided on two routes.**	Active program in place. Service provided on two routes.
4) Ridesharing (Carpools and Vanpools)	Agency subsidizes vanpools. Informal carpools encouraged.	No formal program in place.	No formal program in place.
5) Bicycle Facilities and Amenities	Motorcycle and bicycle spaces provided. Agency considering providing showers and amenities.	No designated spaces.	No designated spaces.
6) Variable Work Schedules	In operation: Core hours: 9:30 a.m. - 2:00 p.m.***	In operation: Core hours: 9:00 a.m. - 2:00 p.m.	In operation: Core hours: 9:00 a.m. - 2:00 p.m.
7) Telecommuting	Recently put in place, with approximately 50 participants.	None.	None.
8) Guaranteed-Ride-Home and Ride-Matching	Agency aware of program. (Available to employees through MWCOG).	Agency aware of program. (Available to employees through MWCOG).	Agency aware of program. (Available to employees through MWCOG).
9) Employee Transportation Coordinator	Informal arrangement with a Transportation Specialist providing general coordination.	Informal arrangements; Function not centralized.	Informal arrangements; Function not centralized.

* Connections to the L'Enfant Plaza and Anacostia Metrorail Stations and the Pentagon; as well as to the NSF Parking garages.

** Connections provided to the Anacostia Metrorail Station with 20-minute headways; and to the Washington Navy Yard with 1-hour headways.

*** Flexible arrival/departure times, as well as condensed work weeks resulting in one day off every two weeks.

Source: O.R. George & Associates, Inc.

2114

As the table shows, transportation management on base varies between the Navy, Air Force and the largest secure tenant, DIA. Formal transportation management initiatives such as parking management and coordinated ridesharing on NSF Anacostia and Bolling AFB do not exist, nor does collaboration of efforts among the groups beyond shuttle bus service.

On-Going Area Planning Initiatives

The District of Columbia is undertaking or has plans to undertake a number of major infrastructure initiatives, which will improve transportation access to the area. These include the following:

South Capitol Street Corridor Improvements and Bridge Realignment

This project calls for major infrastructure upgrades, including a replacement bridge for the Fredrick Douglass Memorial Bridge crossing the Anacostia River (directly north of the Joint Base), and the South Capitol Street/Suitland Parkway/I-295 interchange adjacent to the Poplar Point area. This should provide better regional connectivity and reduce the need for regional traffic to use local streets in the Anacostia area. Associated elements of the project include a new interchange at Suitland Parkway at Martin Luther King Jr. Avenue, as well as improvement to the Firth Sterling Avenue at Suitland Parkway intersection. This project was the subject of a draft Environmental Impact Statement study published in 2008. The district expects to release the final Environmental Impact Statement in 2010.

11th Street Bridges Project

This project will include a new full interchange between the 11th Street Bridges and Anacostia Freeway (I-295) to separate local and interstate traffic via two bridges. This project was the subject of a final Environmental Impact Study published in 2007. 2013 is the expected completion date.

The federal government is undertaking a major local project with potential transportation improvements, as well:

St. Elizabeths Campus Redevelopment:

This project involves the development of a major federal employment center at the nearby St. Elizabeths campus to house the consolidated headquarters of the Department of Homeland Security. This facility would host a daily population of over 14,000 personnel. The project is considering I-295/Malcolm X Avenue interchange modifications as a part of its plan—the ultimate scenario for this intersection would have a direct bearing on Joint Base Anacostia-Bolling access.

The U.S. General Services Administration (GSA) is managing a supplemental Environmental Impact Statement for St. Elizabeths. GSA originally published an Environmental Impact Statement in 2008. Initially, the Federal Highway Administration proposed to adopt the Record of Decision (ROD) as it pertains to proposed transportation improvements on the adjacent Interstate Highway (I-295), however that action is incomplete due to comments received from other agency stakeholders and further analysis is expected. In February 2010, the Metropolitan Washington Council of Governments amended the regional Transportation Improvement Program to include a \$100 Million reconstruction project at the I-295 at Malcolm X Interchange scheduled for construction in 2013.

3.3.6 AIR TRANSPORTATION

Air transportation on the base consists of two rotary-wing landing facilities on Joint Base Anacostia-Bolling. Marine Helicopter Squadron One (HMX-1), the Executive Flight Detachment, is the larger and more significant of the two. The squadron performs approximately 125 flights per week as the sole helicopter transport for the President of the United States. It is located on the NSF Anacostia side.

The smaller helicopter landing zone on Bolling AFB south of the DIA complex is a limited use, helicopter landing zone designated for high-ranking personnel transport and medical evacuation flights.

3.4 PHYSICAL AND NATURAL RESOURCES

This section of the Environmental Assessment documents the physical and natural resources that are present on Joint Base Anacostia-Bolling. The study area for physical and natural resources is defined as the area within the Joint Base Anacostia-Bolling installation boundaries. In preparation of this analysis, the following resources were consulted: aerial photos, geographic information system (GIS) databases, the U.S. Department of Agriculture (USDA) Web Soil Survey, the current Integrated Cultural Resources Management Plans for Bolling Air Force Base (AFB), and Naval Support Facility (NSF) Anacostia, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the Navy Systems Management Activity (NSMA) Environmental Assessment, interviews, prior studies, and site visits.

3.4.1 GEOLOGY, TOPOGRAPHY and SOILS

Joint Base Anacostia-Bolling is located on the Anacostia River close to where it joins the Potomac River. It resides in the Atlantic Coastal Plain physiographic province which is characterized by geology of alternating layers of marine and terrestrial sediments consisting of sands, gravel, silts and clays. These layers are deposited on an eroded crystalline basement rock surface.

The topography of NSF Anacostia is relatively flat. Elevations vary from slightly above sea level along the seawall at the Anacostia River to 25 feet. Slopes vary from less than one percent throughout most of the tract to 25 percent or more along the waterfront, which is due to the presence of an earth levee. The few high points that do exist on the northern and southern ends of the site have been constructed with fill.

Most of the soils on the joint base consist of this man-placed fill or altered soils such as Undorthents or Urban Land. The fill is made with unconsolidated material, material from excavations and river dredging. Typically, the potential of Udorthent soils for both urban development and landscaping is limited and the quality of the in-fill material is questionable, as are the compaction methods used. Existing installation facilities have experienced settling and separation, and as a result, special foundation design is required for most building loads especially on NSF Anacostia. Other mapped soils on base include Dunning, Christiana-urban mix, Keyport-urban mix, Galestown-urban mix, Melvin and Muirkirk Variant mix.

3.4.2 SHORELINE

The original, natural shoreline of the area has been altered; it once terminated near the present-day installation boundary between NSF Anacostia and Bolling AFB. It was artificially extended

prior to 1917 using man-placed fill to extend the natural shoreline and make it serviceable. Present-day NSF Anacostia occupies land that consists of man-placed fill whereas Bolling AFB land sits primarily on natural land—although portions of Bolling AFB also consist of man-placed fill. The U.S. Army Corps of Engineers further altered the shoreline when it built 22-foot high earth levees along both sides of the lower Anacostia River in 1955 as part of a flood control program.

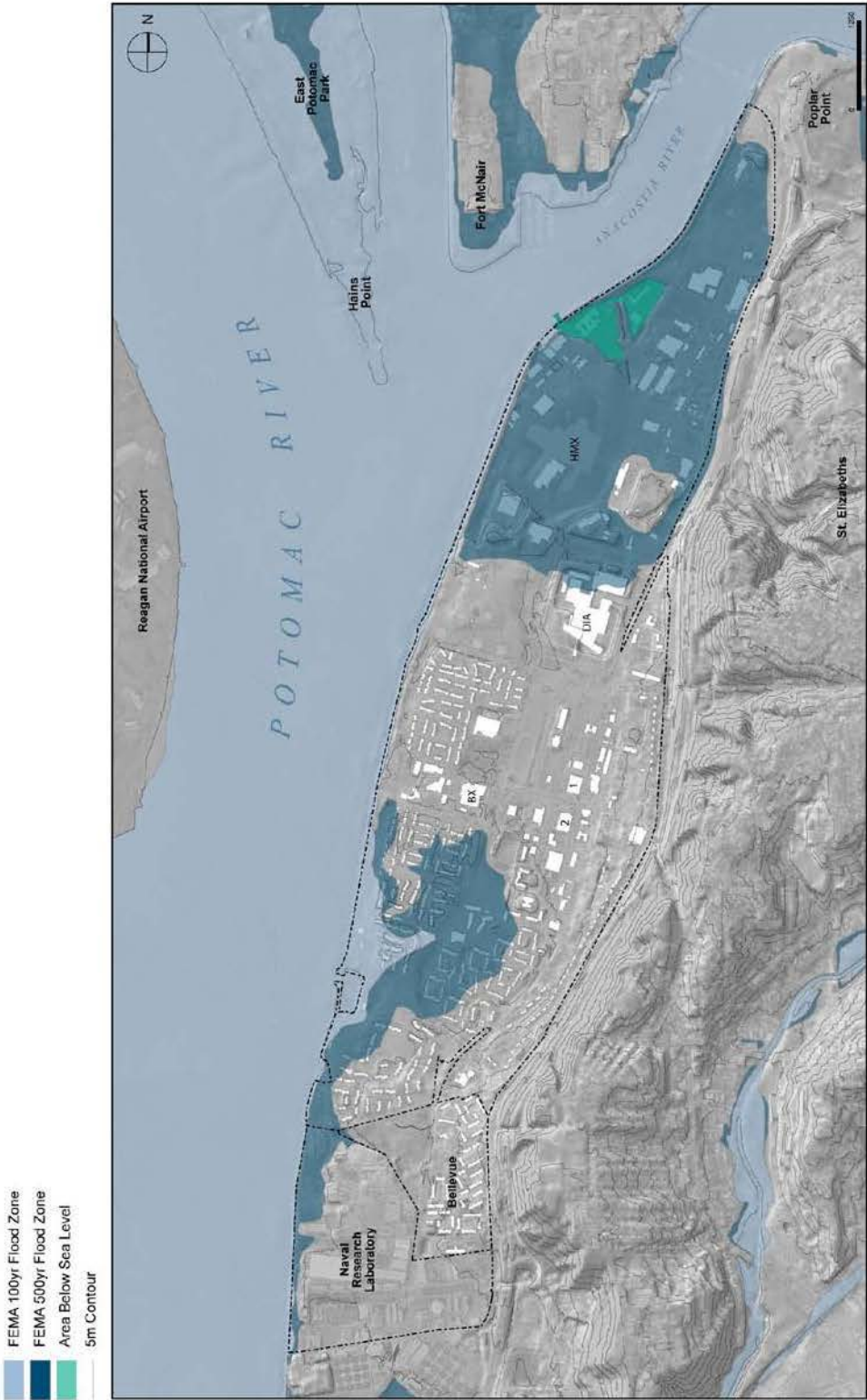
The entire western boundary of the base is open shoreline, although access is restricted. The land uses along the shoreline are inconsistent. Open Space/Recreation dominates the majority of shoreline within Bolling AFB boundaries; a mixture of Mission/Administrative, Industrial/Public Works/Supply and Community Support uses dot the shoreline within NSF Anacostia.

3.4.3 FLOODPLAINS

Identified in 1919, the potential for flooding from the Anacostia and Potomac Rivers is the most significant natural condition on the Joint Base. In fact, flooding is the primary reason why the Army relocated its aviation field immediately south of its original location. The Anacostia and Potomac rivers are subject both to freshwater flows coming downstream and tidal influences coming upstream from the estuarine Potomac River. Flooding storm surges caused by hurricanes and major storm tidal flooding are the chief causes of flooding in this part of the rivers. A storm surge is the rise in water level above normal tides as a result of wind and inverted barometric effects resulting from a major storm or hurricane. The greatest recorded floods in this part of the rivers were all created by the passage of hurricanes or major storms. Notable floods were the storm surge of August 1933, the floods of March 1936 and October 1942, and the Hurricane Agnes flood in June 1972. Floods due solely to high river flows have been relatively minor, and do not define the floodplain, which is defined rather by a combination of storm surge, tidal, and high river flow conditions.

According to FEMA Flood Insurance Rate Map (FIRM) 110001 0025B nearly all of Anacostia lies within the 500-year floodplain and a moderately-sized portion of Bolling northeast of the marina also lies within the 500-year floodplain. A small portion of the immediate area around the marina lies within the 100-year floodplain. A 500-year floodplain is defined as an area likely to be flooded once in 500 years, and a 100-year floodplain is likely to be flooded once in 100 years.

Historically, most of NSF Anacostia was considered to be within the 500-year floodplain due to the protection provided by the construction of an earth levee and concrete flood wall along the installation's river edge to control flooding. However, within recent years, sections of the seawall and the concrete levee wall have deteriorated, impairing flood control. While the Navy has made significant investments to repair the portion of the earth levee within installation boundaries, the levee has not been re-certified by the Army Corps of Engineers as of 2010. As a result, it is expected all of NSF Anacostia will be considered within the 100-year floodplain once updated FEMA flood maps are released.



3.5 UTILITIES/INFRASTRUCTURE

The resource examined in this section of the Environmental Assessment is utilities/infrastructure. The study area for the analysis of this resource is defined as the area within the Joint Base Anacostia-Bolling installation boundaries. In preparation of this analysis, the following resources were consulted: installation studies such as the 2008 Bolling AFB Natural Infrastructure Assessment Report and the 2009 Stormwater Pollution Prevention Plan for NSF Anacostia, interviews, and site visits.

3.5.1 UTILITIES

The primary utilities that service Joint Base Anacostia-Bolling consist of water, wastewater, electricity and natural gas. These systems operate under a variety of ownership and maintenance responsibilities by the Air Force, Navy, utility providers or contractors.

Water service at NSF Anacostia is provided by the District of Columbia Water and Sewer Authority (DC Water). The site is served from three connections to the domestic water distribution and fire service system. Bolling AFB also receives its water service from DC Water. The base is served by seven metered connections. The capacity and sizes of the distribution mains are considered to be adequate by NSF Anacostia; on Bolling AFB there are areas with inadequate fire flow pressures that need upgrades.

Wastewater from NSF Anacostia and Bolling AFB is collected and treated by DC Water at the Blue Plains Wastewater Treatment Plant prior to discharge into the Potomac River. The capacity and sizes of the collection system on NSF Anacostia are considered adequate subject to minor exceptions. On Bolling AFB the overall condition of the collection system is categorized as fair to poor with a number of improvements needed in order to upgrade deficient areas.

Electric service to NSF Anacostia and Bolling AFB is provided by the Potomac Electric Power Company (PEPCO). On NSF Anacostia, service from PEPCO is considered adequate for current and future base loads. However, part of the electrical distribution system—three 13.2 kilovolt (kV) feeders—that serve many facilities on NSF Anacostia are undersized and inadequate for current loads and future growth. A project "Upgrade Electrical Distribution System" is planned to correct the inadequacies of the current loads on the system. The project is expected to be awarded FY 2010 and completed by FY 2013. This project will provide a fourth 13.2kV feeder from new re-distribution switchgear and change the operating system from a "radial" to a "loop" system. This project will not support future growth but rather remedy current problems. Any additional load connected to the base electrical distribution system would need to be directly connected to the main substation. While PEPCO's electrical supply is adequate for current and future uses on Bolling AFB, the existing electrical system is in need of upgrades such as new transformers, switch replacements and the conversion of any remaining dual-radial feeds in series to looped feeds.

Natural gas is provided to NSF Anacostia and Bolling AFB by the Washington Gas Light Company. The natural gas system is adequate for providing the service required on both installations. Heating on NSF Anacostia is provided by individual natural gas units in buildings, except for one building which still receives steam service. Air conditioning is provided by individual coolant systems in most buildings. There is one central chilled water system on NSF Anacostia in Building 47 which supports air conditioning in Buildings 94, 47, and 29 on NSF Anacostia. Heating on Bolling AFB is generated by the Heating Plant, Building 18, and

delivered to approximately 42 buildings via a high-temperature hot water system. The plant also houses several chillers that produce chilled water that is delivered to approximately 22 administrative buildings.

3.5.2 ENERGY CONSERVATION

NSF Anacostia has replaced all lighting on base with fluorescent lights and makes additional energy efficient upgrades as funding becomes available. Bolling Air Force Base outlined an Energy Savings Performance Contract (ESPC) with NORESO ERI Services Division for various energy conservation projects in FY 2002. The following energy conservation projects were completed under this contract:

- Upgrades to energy-efficient lighting in 30 base buildings.
- Installation of window film to reduce solar gain to the interior of all windows in Building 5681.
- Shutdown of high temperature hot water (HTHW) system during the summer through the installation of replacement equipment at three locations on base.
- Installation of energy efficient pumps and chillers at the chilled water plant and the extension of the chilled water plant distribution system.

Energy savings resulting from the ESPC ranged from nearly \$12,500 to over \$380,000, per project. With the execution of the contract these savings were measured and verified. This contract is in effect until 2019.

3.5.3 STORMWATER MANAGEMENT

As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutant-containing stormwater into surface waters of the United States, such as the Anacostia and Potomac Rivers. Point sources are discrete conveyances such as pipes or man-made ditches. Industrial, municipal, and facilities including military bases must obtain permits if their discharges go directly to surface waters. The U.S. Environmental Protection Agency administers the NPDES permit program and issues permits for the District of Columbia. The stormwater system at Anacostia is operated and maintained by Navy personnel. Stormwater discharges are covered by the installation's existing EPA 2008 Multisector General Permit for Stormwater Associated with Industrial Activity. While NSF Anacostia attempts to limit possible contaminants such as oil and grease from entering the nearby waterways through prevention measures, exceedances have been documented. With the exception of construction discharge, a NPDES permit is not required for Bolling AFB.

The natural shoreline of the study area has been altered and originally terminated near the present-day installation boundary between NSF Anacostia and Bolling AFB. Present-day NSF Anacostia occupies land that consists of man-placed fill whereas Bolling AFB land sits primarily on natural land—although portions of Bolling AFB also consist of man-placed fill. Historically, NSF Anacostia was characterized by mud flats; however these flats were filled in to make the area serviceable to the military. This has resulted in an area of land that it is relatively flat, sits at a low elevation and experiences poor drainage. Effective stormwater management following heavy rains can be a challenge for the Joint Base, especially on NSF Anacostia.

On NSF Anacostia, stormwater runoff from impervious surfaces such as roofs, roads and parking lots drains by gravity to pump stations that discharge into the Anacostia River. Stormwater is conveyed through four outfalls that drain different portions of the installation into the river. Three outfalls have undergone extensive renovation in recent years in order to help control the flooding experienced on base; one outfall is still in need of upgrades. NSF Anacostia retains a great deal of open space since it is not developed as intensely as Bolling AFB. Some of this open space is used for dry ponds and Low Impact Development (LID) design techniques such as bioswales (a low area planted with plants tolerant of wet conditions to absorb runoff) to help regulate stormwater runoff on base. However, the installation still experiences standing water in parking lots, roadways and open spaces following storm events.

On Bolling AFB, stormwater runoff from impervious surfaces is managed by a stormwater system of roadway curb and gutter drop inlets and yard inlets that drain into the Potomac River through 31 outfalls. The water is not treated for sediment prior to discharge. A number of improvements to control surface flooding have been completed such as adding and replacing system lines, but additional improvements are still needed. On occasion, isolated flooding occurs around roads and open spaces, especially in the vicinity of the recreational marina during high tides and heavy storm events.

3.5.4 HAZARDOUS MATERIALS AND WASTE

The activities on Joint Base Anacostia-Bolling generate different types of hazardous waste such as fuels, solvents, oils, paint, organic substances, used paint, dirt contaminated with oil and other organic liquids, and batteries. NSF Anacostia is regulated as a Large Quantity Generator (LQG) of hazardous waste under the Resource Conservation and Recovery Act (RCRA) of 1976. A LQG generates 2,200 pounds or more of hazardous waste, or more than 2.2 pounds of acute hazardous waste, per calendar month. Hazardous waste that is not treated onsite must be sent to an offsite treatment, storage and disposal facility permitted to handle hazardous waste or sent to an approved designated facility (such as a recycling facility). Hazardous waste at NSF Anacostia is handled, stored and disposed of in accordance with applicable laws and regulations. Bolling AFB is classified as a LQG as well and controls the management of hazardous waste from generation to disposal. Most of the hazardous waste generated monthly by Bolling AFB is from excess hazardous materials, not chemical process wastes. Hazardous materials are collected from four designated points, consolidated at the HAZMAT Pharmacy in Building 41, and taken off-base for disposal by a contractor.

NSF Anacostia and Bolling AFB have been investigating and remediating past hazardous waste contamination areas as part of the DOD Environmental Restoration (ER) program, also referred to as the Installation Restoration (IR) Program. This program was created in response to the requirements of the Superfund Amendments and Reauthorization Act (SARA), which amended the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as well as RCRA for former and current hazardous waste sites.

The IR program on NSF Anacostia identifies, targets and remediates those areas on base that have experienced environmental contamination due to past practices. There are currently no land use restrictions on NSF Anacostia. Under the IR program remediation is conducted at a site if there is found a risk to human health and/or the environment. If acceptable risk is determined, sites are recommended for no further action. However, all future construction or soil intrusive projects should make allowances to dispose of possible hazardous soil even if the IR program determines no risk, as certain non-hazardous landfills may have restrictions for metal concentrations.

The IR program consists of a Preliminary Assessment (PA), Site Investigation (SI), Remedial Investigation (RI), Feasibility Study (FS), Remedial Action (RA) and ROD (close out). Each phase can take anywhere from 1-3 years which includes regulator review and additional sampling if necessary. All sites require regulator concurrence to be closed out therefore future actions are difficult to determine at times.

As of 2009, the IR program on NSF Anacostia consisted of four sites:

- A crawlspace in Building 168 (PA conducted in 1991, RI conducted in 1992, FS conducted in 1993 - no further action recommended)
- Large area from eastern installation perimeter to the Anacostia River near historic Anacostia-Bolling boundary (Currently in RI phase, anticipate regulator review to begin in December 2009)
- Athletic fields near northern installation boundary (PA conducted in 1991, SI conducted in 1992 - no further action recommended)
- Building 97 and adjacent lot (Area of Concern for metal and PCB contaminants, report will be developed and then reviewed by regulators. No known recommendations at this time)

The IR program on Bolling AFB identifies, targets and remediates those areas—mainly former disposal and spill sites—that have experienced environmental contamination due to past practices. As of 2009, the IR program consisted of six sites:

- Metals operable unit base-wide
- Potomac River operable unit base-wide
- Heat Plant
- Old gas station by pharmacy
- Former aircraft parking area at Youth Center
- Southwest landfill at NRL Lab

These sites are in various stages of investigation, study, review or remediation.

3.6 AIR QUALITY

3.6.1 NATIONAL AMBIENT AIR QUALITY STANDARDS

The Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six air pollutants, referred to as criteria pollutants (40 CFR 5). The six air pollutants include: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀: diameter equal to or less than 10 micrometers, and PM_{2.5}: diameter equals to or less than 2.5 micrometers), lead (Pb), and sulfur dioxide (SO₂). The EPA established primary and secondary NAAQS standards under the requirements of the 1970 Clean Air Act (CAA) as amended in 1977 and 1999. Primary standards were set at levels sufficient to protect public health with an adequate margin of safety; secondary standards were set to protect the public welfare from the adverse effects associated with pollutants in the ambient air such as visibility.

Areas across the U.S. are monitored for their criteria pollutant level. Areas with criteria pollutant that stay within allowable NAAQS levels are classified as “in attainment.” Areas that exceed the criteria pollutant level are designated as “nonattainment” areas. Nonattainment of NAAQS standards has different levels of severity depending on the criteria measured.

For the purposes of this EA, the affected environment is the area considered directly and indirectly influenced by the Joint Base Master Plan. The Joint Base is located in the Washington D.C. area; therefore, it is the area of focus. In preparation for this analysis, the following resources were consulted: The District of Columbia Department of Environment website, the Environmental Protection Agency website, the Navy Systems Management Activity Environmental Assessment, prior installation studies and interviews.

3.6.2 NATIONAL AMBIENT AIR QUALITY STANDARD ATTAINMENT IN WASHINGTON D.C.

Washington D.C. is in moderate nonattainment for ozone (O₃), a nonattainment area for particulate matter 2.5 (PM_{2.5}), and an attainment area for all other criteria pollutants. Emissions from vehicles, electric utilities and industrial facilities are the major sources of ozone-causing chemical compounds. Particulate matter, or particle pollution, consists of very small particles found in the air such as dirt, soot, smoke, dust and liquid droplets. In the case of PM_{2.5}, the particle pollution is made up of fine particles that are the result of combustion activities from sources such as motor vehicles and industrial processes.

3.6.3 LOCAL AMBIENT AIR QUALITY

The Washington D.C. area monitors ambient air quality at locations across the city. Several of these monitoring stations are located near Joint Base Anacostia-Bolling. The most recent available data (from 2008) is presented in the table below as a description of the existing ambient air quality in the project area.

Table 15: Local Ambient Air Quality

<i>Pollutant and Averging Time</i>	<i>Monitored Data</i>	<i>Primary Standard</i>	<i>Secondary Standard</i>	<i>Monitoring Site Location</i>
Carbon Monoxide (CO)				
8-hour maximum (ppm)	3.0	9	9	34th Street and Dix Street, NE
1-hour maximum (ppm)	2.6	35	35	
Nitrogen Dioxide (NO₂)				
Annual Arithmetic mean (ppm)	0.014	0.053	0.053	2500 1st Street, NW
Ozone (O₃)				
8-hour 3-yr, 4th maximum average (ppm)	0.086	0.075	0.075	2500 1st Street, NW
Particulate Matter (PM_{2.5})				
Annual arithmetic mean (ug/m ³)	12.2	15	15	Park Services Office 1100 Ohio Drive
24-hour maximum (ug/m ³)	32.8	35	35	
Particulate Matter (PM₁₀)				
24-hour maximum (ug/m ³)	30.00	150	150	34th Street and Dix Street, NE
Sulfur Dioxide (SO₂)				
Annual arithmetic mean (ppm)	0.006	0.03	-	34th Street and Dix Street, NE
24-hour maximum (ppm)	0.031	0.140	-	
3-hour maximum (ppm)	0.035	-	0.500	

As Table 15 indicates, the local ambient air quality measurements are below the NAAQS standards, with the exception of ozone (O₃). This is consistent with the region's O₃ nonattainment status. The PM_{2.5} level for the project area is below the NAAQS threshold, but the region as a whole is still in nonattainment status.

3.6.4 Air Emissions on Joint Base Anacostia-Bolling

Stationary sources of air pollutants on Joint Base Anacostia-Bolling are emissions from boilers, fuel storage, generators, paint booth operations, printing operations, and woodworking. Additionally, mobile emissions from cars, trucks and buses entering and leaving the site would also contribute—as would motor vehicles using the major transportation corridors found around the area: I-295, South Capitol Street, the Frederick Douglass Memorial Bridge and the 11th Street Bridges.

3.6.5 State Implementation Plans and Clean Air Act Conformity

The Clean Air Act (as amended in 1990) mandates that state agencies adopt state implementation plans (SIPs) that target the elimination or reduction of the severity and number of violations of the NAAQS. SIPs outline policies to achieve and maintain standards attainment. There are two SIPs that target the Washington D.C. region's non-attainment status for Ozone and Fine Particulate Matter: the *Plan to Improve Air Quality in the Washington, DC-MD-VA Region, State Implementation Plan for 8-Hour Ozone* (MWWCOG 2007) and the *Plan to Improve Air Quality in the Washington, DC-MD-VA Region, State Implementation Plan for Fine Particulate Matter (PM_{2.5})* (MWWCOG 2008). Both plans offer steps to bring the area into attainment status.

Under Section 176(c) of the Clean Air Act Amendments of 1990, a project is in "conformity" if it corresponds to a SIP's purpose of elimination or reduction of the severity and number of violations, of NAAQS standards. The EPA published final rules on general conformity (40 CFR Parts 51 and 93 in the Federal Register in 1993) that apply to Federal actions in nonattainment areas. Federal agencies responsible for an action in a nonattainment area are required to determine that the action either conforms with the region's attainment plan or is exempt from determining conformity. Federal actions are exempt from conformity determinations where the total of all reasonably foreseeable direct and indirect emissions of nonattainment pollutants would either be: (1) less than their specified emission rate thresholds, known as *de minimis* limits, or (2) less than 25 percent of the area's annual emissions budget. The rules indicated threshold emission levels by pollutant to determine the applicability of conformity requirements for a project.

In this particular instance, the project area—Joint Base Anacostia-Bolling—is located in a moderate nonattainment area for ozone (O₃) in an ozone transport region and a nonattainment area for particulate matter (PM_{2.5}). Therefore, based on the threshold level (*de minimis*), no more than 100 tons per year of nitrogen oxides (NO_x), PM_{2.5} and sulfur oxides (SO_x) (a PM_{2.5} precursor) and 50 tons per year of volatile organic compounds (VOC; NO_x and VOC are precursors of O₃) are permitted.

3.7 NOISE

Noise is generally defined as unwanted or objectionable sound that alters or disturbs quality of life, communication, or may affect physical health. Most environmental noise, particularly in urban areas, consists of a variety of frequencies of common, distant noises that create relatively steady background noise levels. Periodic loud noises such as horns honking or trucks passing by are easily perceived above background noise levels. Noise levels are usually measured and expressed in decibels (dB) that are weighted to frequencies perceivable by the human ear, known as A-weighted sound levels and expressed as dBA. Noise levels are typically measured over a set period of time (1 hour, 8 hours, or 24 hours) and commonly expressed as dBA Leq, representing the equivalent or average noise level for a given time period. Noise experienced by an individual is a function of the noise source and the physical conditions between the source and receptors (e.g., topography/structures, weather, background noise, time of day). Due to the location of the Master Plan area within Washington D.C., ambient noise levels would generally be higher during the daytime and evening hours and lower during the night.

For the purposes of this section of the EA, the affected environment is the area considered directly influenced by the Joint Base Anacostia-Bolling Master Plan. The Master Plan area includes the installation and those properties within close proximity to the installation. In preparation of this analysis, the following resources were consulted: the 2004 FAR Part 150 Noise Compatibility Program Update for Reagan Washington National Airport, previous installation studies and site visits.

The predominant sources of noise at Joint Base Anacostia-Bolling include on-base military helicopter operations, air traffic from Reagan Washington National Airport across the Potomac River and vehicular traffic from South Capitol Street and I-295 which run adjacent to the base. Helicopter operations at the HMX-1 airfield or the Air Force helipad are sporadic and not a consistent source of noise. Furthermore, flight paths typically follow the Potomac and Anacostia Rivers; however, commercial air traffic control may modify the path of aircraft in the interest of safety leading to occasional overflights at the installation. Flight operations at the airport used to create day-night average sound level noise contours of 65 Ldn, which reached the interior of Bolling AFB. A Ldn (also known as Day-Night Average Sound Level or DNL) is a unit of noise awareness. Areas within a 65 Ldn contour would be somewhat less noisy than the interior of a department store. However, recent studies show that these noise contours no longer reach the base due in large part to the use of quieter aircraft at Reagan Washington National Airport. Secondary sources of noise on base include base traffic and equipment operation.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter of the Environmental Assessment (EA) describes the potential environmental consequences, or impacts, that would result from implementation of the alternatives being considered by the Navy for Joint Base Anacostia-Bolling. As noted in Chapter 2, three alternatives are evaluated in this section: 1) the No Action Alternative, 2) the No Master Plan Alternative and 3) the Joint Base Master Plan Alternative (the preferred alternative). These three alternatives and their associated growth are briefly described in the table below.

Table 16: Alternatives

<i>Facility</i>	<i>Current Population</i>	<i>Planned Growth (Known)</i>	<i>Alternative A: No Action Alternative (Current Pop + Planned Growth)</i>	<i>Alternative B: No Master Plan (Planned Growth +25% Growth, No MP)</i>	<i>Alternative C: Joint Base Master Plan (Planned Growth +25% Growth, With MP)</i>
Bolling AFB					
General	3,349	NCR 500			
Secure Tenant	DIA 7,000	JADOC 200			
NSF Anacostia					
General	1,651				
Secure Tenants	1,209	NSMA 800			
Total	13,209	1,500	14,709	18,386	18,386

Source: Bolling AFB, NSF Anacostia, DIA

It is important to note that the proposed action—the Joint Base Master Plan (represented by Alternative C: Joint Base Master Plan Preferred Alternative)—consists primarily of a new consolidated land use plan with an associated urban design framework which suggests how to guide future development. When new facility projects are eventually developed, Joint Base Anacostia-Bolling may site them using the general guidance of the Master Plan's land use concepts and design framework. Consideration of the detailed, physically-measurable development impacts of specific site projects is outside the scope of this evaluation of the alternatives because specific projects are *future actions* that have yet to be designed or pursued. The EA is restricted to the consideration of how each alternative *would impact various resources on and around Joint Base Anacostia-Bolling at a general, planning level-of-detail rather than a project-specific level*. However, when applicable, recommendations measures to minimize or avoid adverse impacts are discussed.

4.1 COMMUNITY RESOURCES

An evaluation of the three alternatives' potential impacts on community resources—existing land use patterns, relevant planning policies, initiatives and projects, and waterfront access—is part of this EA.

4.1.1 EXISTING LAND USE PATTERNS

Alternative A: No Action Alternative

The No Action Alternative would have no impacts on land use beyond those projects—NCR, JADOC, and NSMA—that are already planned and undergoing/will undergo individual environmental review under NEPA. There would be no change to the existing conditions of the Joint Base as described in Chapter 3.

Alternative B: No Master Plan Alternative

The No Master Plan Alternative would have impacts on land use, although the specific impacts would be difficult to predict at this time. In addition to three previously-identified projects (NCR, JADOC, NSMA), the base population would grow by 25 percent over the next 10 years under this alternative. However, there would be no change in the planning process or considerations currently used to site facilities on base, or a new comprehensive vision to help guide the placement of future facilities on the installation, or influence their design. It is likely these facilities would continue to be sited on a case-by-case basis in areas with available greenfield space. Therefore, land uses would not be consolidated in a manner which emphasizes co-location of similar or complementary uses. Benefits such as decreased vehicle usage, fewer vehicle trips and increased pedestrian activity within and between consolidated land use areas would not result.

Alternative C: Joint Base Master Plan Alternative (Preferred)

The Joint Base Master Plan Alternative would have impacts on land use if implemented. In addition to previously-identified projects (NCR, JADOC, NSMA), the base population would grow by 25 percent over the next 10 years under this alternative. However, under this alternative there would be a comprehensive vision in the form of the Master Plan and urban design framework to help guide the placement and design of future facilities.

Generally, if the Master Plan were adopted and implemented, land use at the installation would change in the manner described below. The Master Plan primarily makes a number of land use recommendations defining eight functional use areas. Currently, these areas are found between the two installations, scattered throughout the combined area. They would be consolidated as follows:

Proposed Land Use Improvements Recommended by the Joint Base Master Plan

- **Mission/Administrative:** These areas exist throughout the two bases and would likely continue to exist as several nodes. The Master Plan calls for one node on Bolling and two nodes on Anacostia, emphasizing increased density and definition of these areas. This would create several benefits. One, a denser clustering of office spaces where the preponderance of employees work would enable more efficient base transit systems to function. Second, it would promote a more efficient infrastructure distribution. Third, it would define the administrative areas and make them places in which it is feasible and desirable to walk, decreasing the need to use cars for every trip and enhancing the quality of life for personnel on base. The northernmost area of Joint Base Anacostia-Bolling would be appropriate for a unique, high-density Mission/Administrative complex. The land is currently underutilized, and in light of Naval District Washington's growth potential, can offer some relief to a space-constricted Washington Navy Yard. The area

would be a new mixed use, higher-rise office complex with community support functions for the workers, such as food service. Redevelopment of this parcel would meet critical mission demands and enable the highest possible use of the Joint Base's land resources.

- **Airfield Operations:** There are two separate air operations areas and they would need to remain separate to prevent conflict of operations. Marine Helicopter Squadron One (HMX-1) area, the Executive Flight Detachment, would remain where it currently resides on NSF Anacostia. The 1st Helicopter Squadron Air Force helipad near the intersection of MacDill Boulevard and Chappie James Boulevard/Defense Boulevard would remain where it currently resides.
- **Industrial/Logistics:** Anacostia has a greater proportion of industrial land use, so industrial operations would be consolidated there. Industrial uses include two transportation operations and maintenance yards, two facilities maintenance compounds, several warehouses, an indoor weapons firing range, and a recycling collection facility. Other scattered functions would be consolidated into the industrial areas. These functions include a hazardous material storage and management facility, an Army National Guard equipment storage yard and related facilities and a SeaBees compound. Consolidating logistics and industrial land uses would represent the most efficient and effective use of land that has historically supported such functions and help build a critical mass of complementary uses in one definitive area. This would help reduce vehicle trips by base users to disparate areas for facilities of a similar nature.
- **Military Family Housing:** This area is entirely on the Bolling side and would remain there. Housing support facilities such as maintenance buildings and open space/outdoor recreation uses would also be allowed in these areas. Military family housing on Bolling is undergoing a 50-year land lease privatization and portions of existing family housing land would be returned to DoD and reutilized as other land uses. The return of some portions of existing family housing land to DoD would enable the base to accommodate future mission demands and steadily work toward greater consolidation of uses and efficiency across the base.
- **Central Parking:** This land use would relocate and consolidate a number of small, dispersed parking lots prevalent on Bolling to the periphery of the enhanced Town Center development in two main lots. This land use would provide shared parking for a number of facilities in proximity to the area. This land use would also designate two additional main lots on the Joint Base; one next to the DIA and one between Base Industrial Support and the Administrative Mission Center on Anacostia. The consolidation would make new land available for infill development, allowing the opportunity for densification in targeted nodes on base. It would also encourage base users to park once and access their destinations on foot rather than drive a car to multiple locations.
- **Town Center Mixed Use Area 1:** As the name implies, this land use allows a number of uses within its boundaries: community support functions (such as unaccompanied enlisted support, adult education and skills, fitness center/gym, officer's club, bowling center, youth education and services), health services/medical facilities, retail, a one-stop center for in/out processing, mission/administrative, ceremonial mission, unaccompanied enlisted personnel housing, temporary lodging, chapels, food service and open space/outdoor recreation facilities. This area would build upon a number of uses already present in the geographic area. For example, community support functions primarily reside on the Bolling side of the base. This area consists of uses such as the commissary, the base exchange, a gym and a child development center (CDC). This area would be further enhanced and other dispersed community support functions

around the base consolidated here. A few pockets of community support may remain segregated to facilitate their special requirements or provide services to their immediate area. For instance, it may be more desirable to develop a child development center near a base gate rather than have it in the main community center in the middle of the base in order to facilitate the arrival of children from off-base (see Mixed Use Area 2 for more information). Consolidation of community support uses would enable base users to access a variety of services without being forced to travel to dispersed locations in order to accomplish different tasks. The strategic co-location of services would help build a critical mass of complementary uses in one defined area, thereby facilitating pedestrian and transit access and reducing base user reliance on personal vehicles for installation transportation. Another use encouraged by the Master Plan would be new, consolidated unaccompanied enlisted personnel housing. Both Anacostia and Bolling have their own unaccompanied (bachelor) enlisted personnel housing areas and Bolling is in need of new barracks. New barracks could be located on a site at the nexus of the community area and new pedestrian corridor along Castle Avenue. The addition of personnel residing in this area would help create an active town center and strategically locate those people who are less likely to have personal transportation closer to the area they need access to on a daily basis. An active town center would encourage pedestrian activity and make the area an appealing destination for base residents, users and guests. Along the same lines, the Navy and Air Force use temporary quarters, also known as transient quarters, at dispersed facilities across the base. The facilities along Angell Street on the edge of the Town Center and near the lodging office would remain. Any new facilities would be located in the Town Center. The presence of personnel residing in this area would help create an active town center and strategically locate those people who are less likely to have personal transportation closer to the area they need access to on a daily basis. Also, new or larger medical facilities might eventually be needed to accommodate growing medical demands on the Joint Base. Modern facilities would be most appropriately sited in an area that is accessible by several modes of transportation, near the nexus of the community area. Again, the strategic co-location of services would help build a critical mass of complementary uses in one definitive area, thereby facilitating pedestrian and transit access and reducing base user reliance on personal vehicles for installation transportation.

- **Mixed Use Area 2:** This area would call for a mix of uses such as military family housing, community support uses such as youth education and services (e.g., a CDC, charter school, library or youth center), open space/outdoor recreation facilities and food service. If needed, military family housing would be appropriate for the area due to its proximity to community support functions and the adjacent pattern of development. If a charter school and additional CDC is established on the Joint Base in order to meet user demands, this area would be appropriate because it is located off of Chappie James Boulevard, near family housing and the South Gate. This location would allow ease of access for on-base families as well as any families that drop off children from off-base. Furthermore, additional open space/outdoor recreation fields would be needed to offset their loss on Anacostia and meet user demand. The location of these facilities in this area would enable the base to accommodate future community support demands and steadily work toward greater consolidation of uses and efficiency across the base. Food service would support the youth education and services and possibly open space/outdoor recreation facilities.
- **Open Space / Outdoor Recreation:** The current riverfront walk and Giesboro Park would remain and be enhanced. The park would be professionally and sustainably landscaped to provide a more inviting public space. The marina at the southern end of the riverfront would be enhanced to promote it as a “green” destination and to be a nodal

connection to a new running-walking circuit trail that would expand the capacity of the riverfront walk. Ballparks would be established and enhanced on land adjacent to Bellevue family housing in Mixed Use Area 2.

4.1.2 RELEVANT PLANNING POLICIES, INITIATIVES AND PROJECTS

Alternative A: No Action Alternative

Generally, the No Action Alternative would not result in adverse impacts to any of the plans and projects within the immediate plan area as described in Chapter 3. It would not prevent the implementation of any planning policy, achievement of any planning initiative or the completion of any current project. However, it would not actively support or promote any of these policies, initiatives or projects, either.

Alternative B: No Master Plan Alternative

Generally, the No Master Plan Alternative would have the potential to result in impacts to the plans and projects within the immediate plan area as described in Chapter 3. With a 25 percent increase in base growth over the next 10 years in addition to the three previously-identified projects, this alternative would result in new growth but lack a guiding policy document for future installation land use and urban design. It is likely these facilities would continue to be sited on a case-by-case basis in areas with available greenfield space. Therefore, land uses would not be consolidated in a manner which emphasizes co-location of similar or complementary uses. Benefits such as decreased vehicle usage, fewer vehicle trips and increased pedestrian activity within and between consolidated land use areas would not result. This alternative would not necessarily prevent the implementation of any planning policy, achievement of any planning initiative or the completion of any current project within the immediate plan area as described in Chapter 3. However, it would not actively support or promote any of these area policies, initiatives or projects, either.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Generally, the Joint Base Master Plan Alternative would result in a comprehensive vision for Joint Base Anacostia-Bolling that would support many of the relevant policies contained within the *Comprehensive Plan for the National Capital, Federal Elements*. These policies and the Master Plan's relationship are briefly outlined below.

The Federal Workplace Element

“Support regional and local agency efforts to coordinate land use with the availability or development of transportation alternatives to the private automobile.”

“Utilize available federally owned land or space before purchasing or leasing additional land or building space.”

Joint Base Anacostia-Bolling is located in a part of the District of Columbia that is undergoing some significant changes through multiple planning initiatives and redevelopment projects. For example, South Capitol Street is undergoing corridor improvements, the D.C. Streetcar project is constructing an initial service line segment adjacent to the base and the Anacostia Waterfront Initiative is set to introduce additional pedestrian/bicyclist connections to the area. These projects are collectively expected to make the area, including Joint Base Anacostia-Bolling,

more accessible to alternative transportation modes. Furthermore, the base has developable land available to accommodate future Federal growth.

The Federal Transportation Element

“Develop TMPs that explore methods and strategies to meet prescribed parking ratios, and include a thorough rationale and technical analysis in support of all TMP findings.”

“Outside of the Central Employment Area, but within the Historic District of Columbia boundaries, the parking ratio should not exceed one space for every four employees.”

The Joint Base Master Plan includes a Transportation Management Plan (TMP) that is the result of an analysis of existing base conditions, internal and external influences and future projected needs of base commuters. In addition to the elements contained within the TMP, the Joint Base Master Plan addresses transportation in one significant way—through intelligent land use. By guiding future development to take place in an organized and deliberate fashion, in areas which are clustered and consolidated, this plan would improve the overall accessibility and circulation of the site for both the pedestrian and the vehicle. It also would begin the process of reconfiguring the installation’s parking supply and curtailing the existing parking ratio.

The Parks and Open Space Element

“Discourage large paved parking areas and other non-water-related development along the Anacostia and Potomac Rivers...”

“The points where gateway routes enter the District of Columbia are of special significance. These entry points, and adjacent development, should provide an appropriate sense of transition and arrival, requiring careful design...”

The Joint Base Master Plan calls for continuous, uninterrupted open space and recreational uses along the installation’s shoreline. Future buildings would observe the open space/recreational buffer along the waterways that is intended for scenic and recreational enjoyment. Such changes would aesthetically enhance the waterfront. Furthermore, through the preservation of the shoreline, discouragement of unnecessary impervious surfaces and the implementation of additional sustainable practices on base, stormwater runoff would be significantly mitigated. The Joint Base Master Plan also is consistent with the policy to protect and enhance those routes which provide or have the potential to provide grand entrances to the city, through an orderly concentration of similar land uses and a number of design improvements envisioned for the whole of Joint Base Anacostia-Bolling. The land use plan would encourage future development to take place in an organized and deliberate fashion, thereby eliminating the imagery of a military installation that is disjointed or haphazard. By knitting the two bases together through unifying land use and design in areas such as landscaping, streetscape elements and consistent facility appearance standards—the installation would experience a dramatic visual enhancement. These visual improvements would particularly benefit the Joint Base’s northern perimeter in the area closest to the Frederick Douglass Memorial Bridge/South Capitol Street Bridge. The conversion of the northernmost tract of land into a unique, high-density mission/administrative complex with modern facilities would provide a positive impression of the Joint Base to the passing motorist or pedestrian and visually enhance the area as a gateway into downtown Washington D.C.

The Federal Environment Element

2879
2880 "Use pervious surfaces and retention ponds to reduce stormwater runoff and impacts on
2881 off-site water quality."
2882

2883 "Encourage the use of innovative and environmentally friendly *Best Management*
2884 *Practices* in site and building design and construction practice, such as green roofs, rain
2885 gardens, and permeable surface walkways, to reduce erosion and avoid pollution of
2886 surface waters."
2887

2888 "Encourage modification of existing developments to correct flood hazards and to
2889 restore floodplain values. If the necessary modifications cannot be accomplished, the
2890 buildings should be removed when feasible to allow restoration of the natural values of
2891 the floodplain."
2892

2893 The Joint Base Master Plan is consistent with these sets of policies. The land use plan for the
2894 installation calls for an uninterrupted stretch of open space/recreational uses on the shoreline,
2895 thereby helping provide a buffer between most installation uses and impervious surfaces, and
2896 the adjacent rivers. Adequate vegetated buffers adjacent to bodies of water would reduce
2897 sedimentation and pollutants, thus improving water quality and protecting fish and other aquatic
2898 life. The recommended employment of new "green" practices on the installation such as low-
2899 impact development (LID) design techniques and vegetated bioswales, rain gardens and porous
2900 pavers would help relieve flooding and facilitate natural groundwater recharge. As a significant
2901 portion of Anacostia-Bolling is located within the 500- and 100-year floodplains, consideration of
2902 the rivers' flood potential is incorporated into the plan as well. Appropriate land use along the
2903 shoreline is called for and future facility clustering and vertical densification would also help
2904 minimize the installation's impervious footprint and floodwater displacement.
2905

2906 **The Preservation and Historic Features Element**

2907

2908 "Encourage the practice of good design principles throughout the region to continually
2909 strengthen the image of the nation's capital."
2910

2911 "Sustain exemplary standards of historic property stewardship."
2912

2913 This Joint Base Master Plan supports and underscores the importance of these policies through
2914 its future vision for Anacostia-Bolling. It recommends an appropriate land use plan which would
2915 designate open space/recreation uses near the waterways, concentrate similar community
2916 support and personnel service uses adjacent to each other, cluster housing near existing and
2917 future community facilities and designate proper mission-support areas. The Master Plan would
2918 encourage an installation that exhibits orderly, intelligent land use and unifying design elements
2919 that would not only enhance the image of Joint Base Anacostia-Bolling—presenting it as an
2920 exemplary military installation—but would also reinforce a positive image of the Nation's Capital.
2921 Furthermore, the plan recognizes the base's importance to the history of both the Navy and the
2922 Air Force. The continued use and reuse of administrative and residential buildings on Bolling
2923 AFB that are National Register of Historic Places (NRHP)-eligible is integrated into the future
2924 land use plan and design framework. The Master Plan also would encourage additional
2925 pedestrian linkages to the historic district on Bolling AFB, proper architectural themes for new
2926 buildings and design elements such as markers that highlight historic significance. Additionally,
2927 the two buildings identified as potentially NRHP-eligible on NSF Anacostia (pending
2928 confirmation by the D.C. State Historic Preservation Office)—Buildings 168 and 169—would be
2929 protected through retention in this plan and highlighted through similar enhancement efforts.

2930
2931 *The Anacostia Waterfront Initiative and Anacostia Waterfront Frame Work Plan*
2932

2933 The Joint Base Master Plan would help reinforce a positive, attractive vision of South Capitol
2934 Street through the installation's improved land use plan, design enhancements and strategic
2935 placement of a new, modern special use campus at the northern boundary of the installation.
2936

2937 The Master Plan would help facilitate the enhanced image of the Anacostia waterfront through
2938 its own on-base organization and appearance improvement efforts—aiding the transformed
2939 image of the base's northern neighbor, Poplar Point.
2940

2941 The Joint Base Master Plan recommends a comprehensive network of sidewalks and trails
2942 throughout the base, including the extension of its existing waterfront trail that would improve
2943 internal connectivity.
2944

2945 *South Capitol Street Corridor Improvements and Bridge Realignment*
2946

2947 The Master Plan's recommendations for consolidated land use and quality design in future
2948 development are consistent with the image enhancement desired for the South Capitol Street
2949 Corridor and bridge. However, the full build-out of the North Administrative Mission Complex
2950 depicted in the northern tip of NSF Anacostia without any modifications would not be consistent
2951 with DDOT's proposed plan for bridge realignment. The bridge realignment would require land
2952 that is currently Navy property. Without a change(s), these two plans would be incompatible.
2953

2954 *St. Elizabeths Campus Redevelopment*
2955

2956 The Master Plan's recommendations for consolidated land uses and a new urban design
2957 framework on base would improve the aesthetic appearance of the Joint Base and physically
2958 improve its configuration. However, with a 25 percent increase in base growth over the next 10
2959 years, full implementation of the Master Plan would exert additional pressure on a transportation
2960 network in an area that would also be used by 14,000 Department of Homeland Security
2961 employees trying to access St. Elizabeths after the transition of the Department of Homeland
2962 Security to the St. Elizabeths campus is completed.
2963

2964 *Other Projects of Note:*
2965

2966 Generally, the proposed action under the Joint Base Master Plan Alternative would have no
2967 adverse effect on the other projects and plans of note outlined in Chapter 3. Adopting and
2968 implementing the Joint Base Master Plan would not create conditions that would impede or
2969 prevent the successful achievement of these projects.
2970

2971 *NAVFAC 2035*
2972

2973 The Joint Base Master Plan Alternative is consistent with the overarching guiding principles that
2974 support the achievement of the Navy's Maritime Strategy for reshaping its shore establishment
2975 and capabilities, particularly as they relate to the desired effect for an installation such as Joint
2976 Base Anacostia-Bolling.
2977

2978 *Design Reviews by NCPC and CFA*
2979

The Joint Base Master Plan Alternative does not present a specific schedule of proposed development on the Joint Base. Consultation with NCPC and CFA on individual projects would be required if, and when, future projects are identified.

Recommendations:

- Joint Base Anacostia-Bolling will work with the District of Columbia to determine if a mutually-agreeable and mutually-beneficial solution can be found for the proposed South Capitol Street Bridge realignment.

4.1.3 WATERFRONT ACCESS

Alternative A: No Action Alternative

Under the No Action Alternative, the Joint Base would remain in its current state aside from the three projects previously outlined (NCR, JADOC, NSMA). There would be no adverse impacts on the general public's access to the installation's waterfront since the public does not currently have access to the waterfront as a result of base security constraints.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, there would be no adverse impacts on the general public's access to the installation's waterfront since the public does not currently have access to the waterfront as a result of base security constraints. In addition to the planned projects previously outline (NCR, JADOC, NSMA) the base would grow by another 25 percent over the next 10 years; however, there would be no comprehensive guiding vision to direct that growth, increase internal base connectivity via sidewalks and trails, or enhance the installation's shoreline. Such activity, if it took place, would continue to be implemented on a project-by-project basis. The opportunity to implement a consistent greenway along the length of the shoreline, enhance its visual character and increase its overall recreational enjoyment by internal base users would be lost. While the general public would not have direct access to the installation's shoreline for recreational enjoyment, an alternative multi-use trail that provides the desired connectivity to the area network is currently proposed to run along the installation's eastern perimeter and parallel South Capitol Street. Design and construction are expected at a later date—most likely 2013 to 2015.

Recommendations:

- Joint Base Anacostia-Bolling will work with the District of Columbia and support its efforts to site a multi-use trail along the installation's eastern boundary. These efforts would improve the region's pedestrian and bicyclist network providing another transportation alternative for base users and simultaneously aid installation security.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the Joint Base Master Plan Alternative, there would be no adverse impact on the general public's access to the installation's waterfront since the public does not currently have access to the waterfront. This is due to base security constraints. The Master Plan would designate the entire length of the shoreline as an Open Space/Recreation land use and recommend the expansion and enhancement of the existing multi-use trail along the shoreline. The Master Plan would also recommend the increase of internal bicycle and pedestrian connections through the installation of additional trails and consistent sidewalks. While the general public would not have direct access to the installation's shoreline for recreational enjoyment, an alternative multi-

use trail that provides the desired connectivity to the area network is currently proposed to run along the installation's eastern perimeter and parallel South Capitol Street. Design and construction are expected at a later date—most likely 2013 to 2015.

Recommendations:

- Joint Base Anacostia-Bolling leadership will work with the District of Columbia and support its efforts to site a multi-use trail along the installation's eastern boundary. These efforts would improve the region's pedestrian and bicyclist network providing another transportation alternative for base users and simultaneously aid installation security.

4.2 Cultural Resources

An evaluation of the potential impacts on cultural resources is part of this EA. Potential impacts to these resources include both direct and indirect impacts. The alteration, physical displacement, or demolition of a resource is a direct adverse effect; changes in the use, operation, or character of a resource can be either direct or indirect effects; and changes to the visual context are considered indirect effects. "Impacts," as defined in the White House Council on Environmental Quality (CEQ) regulations for National Environmental Policy Act (NEPA), and "effects," as used in National Historic Preservation Act of 1966 (NHPA), are synonymous.

In addition to CEQ regulations implementing NEPA, the National Historic Preservation Act of 1966, as amended, establishes standards for evaluating potential effects on historic resources. The NHPA defines "effect" as an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" (36 CFR 800.16), and requires that the lead agency, in consultation with the State Historic Preservation Officer (SHPO), determine whether the effect is adverse. According to the NHPA, an "adverse effect" occurs "when an undertaking may alter, directly or indirectly, any of the characteristics of the historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" (36 CFR 800.5).

According to the Advisory Council on Historic Preservation's (ACHP) regulations implementing Section 106 of the NHPA, impacts to cultural resources are identified and evaluated by: (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that are either listed in or eligible to be listed in the National Register of Historic Places; (3) applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the National Register; and (4) considering ways to avoid, minimize, or mitigate adverse effects.

4.2.1 Archaeological Resources

Alternative A: No Action Alternative

Implementation of the No Action Alternative would result in no change on the installation aside from the three previously identified projects (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. Implementation of the No Action Alternative would not have any adverse effects on known or potential archaeological resources.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, there would be the potential for effects on archaeological resources, although the specific impacts are difficult to predict at this time because specific projects have not been developed. Generally, if the anticipated 25 percent of growth over the next 10 years results in the construction of new facilities or demolition of older facilities, ground disturbance would occur. It is not likely such disturbance on NSF Anacostia would result in any adverse effects to archaeological resources since the land was constructed using man-placed fill. However, four archaeological sites are known to exist on Bolling AFB and one on Bellevue Naval Housing Complex in addition to 36 potential unidentified prehistoric and historic sites. The exact locations of the identified sites are not known, nor are the locations of the 36 potential unidentified sites. It is believed the most archaeologically sensitive areas of the base lie along the original shoreline of the Anacostia River. However, implementation of the No Master Plan Alternative would result in future base facilities and infrastructure sited on a project-by-project basis without a comprehensive, long-term guiding vision for their location.

Recommendations:

- To fully comply with applicable regulations, Joint Base Anacostia-Bolling will consult with the District of Columbia Historic Preservation Office (DCHPO) and other parties during the planning of and prior to construction of any future buildings to determine the appropriate level of investigation for archaeological resources.
- As appropriate, site investigations of proposed construction sites will be conducted during project planning.
- In the event that archaeological resources are discovered during future ground disturbing activities, construction will stop while appropriate studies are completed.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the Joint Base Master Plan Alternative, there would be the potential for effects on archaeological resources, although the specific impacts are difficult to predict at this time because specific projects have not been developed. Generally, if the anticipated 25 percent of growth over the next 10 years results in the construction of new facilities or demolition of older facilities, ground disturbance would occur. It is not likely such disturbance on NSF Anacostia would result in any adverse effects to archaeological resources since the land was constructed using man-placed fill. However, four archaeological sites are known to exist on Bolling AFB and one on Bellevue Naval Housing Complex in addition to 36 potential unidentified prehistoric and historic sites. The exact locations of the identified sites are not known, nor are the locations of the 36 potential unidentified sites. It is believed the most archaeologically sensitive areas of the base lie along the original shoreline of the Anacostia River.

Under the preferred alternative, future development is generally expected to occur in areas that have experienced past development disturbance or in less archaeologically sensitive areas such as the NSF Anacostia side. Areas that are considered the most archaeologically sensitive—such as the land adjacent to the shoreline—are designated as an Open Space/Recreation land use in the Master Plan. This designation would result in minimal land disturbance.

Recommendations:

- To fully comply with applicable regulations, Joint Base Anacostia-Bolling will consult with the District of Columbia Historic Preservation Office (DCHPO) and other parties during

the planning of and prior to construction of any future buildings to determine the appropriate level of investigation for archaeological resources.

- As appropriate, site investigations of proposed construction sites will be conducted during project planning.
- In the event that archaeological resources are discovered during future ground disturbing activities, construction will stop while appropriate studies are completed.

4.2.2 Historic Resources

Alternative A: No Action Alternative

Implementation of the No Action Alternative would result in no change on the installation aside from the three previously identified projects (NCR, JADOC, NSMA) that are currently undergoing or would need to undergo individual environmental reviews. Implementation of the No Action Alternative would not have any adverse effects on known or potential historic resources.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, there may be potential effects on historic resources, although specific impacts cannot be predicted at this time because they would depend upon future projects that have not yet been developed. Generally, if the anticipated 25 percent of growth over the next 10 years results in the construction of new facilities or demolition of older facilities, historic resources could be impacted. A NRHP-eligible historic district and four individually NRHP-eligible buildings are known to exist on Bolling AFB. Furthermore, two NSF Anacostia buildings are expected to be classified as NRHP-eligible (pending official DCHPO concurrence). Implementation of the No Master Plan Alternative would result in future base facilities and infrastructure sited on a project-by-project basis without a comprehensive, long-term guiding vision for their appropriate location or design.

Recommendations:

- To fully comply with applicable regulations, Joint Base Anacostia-Bolling will consult with the District of Columbia Historic Preservation Office (DCHPO) during the planning for and prior to construction of any future buildings to determine the appropriate level of investigation for historic resources. This is especially important within the NRHP-eligible Bolling AFB Historic District where the construction of new buildings or alteration and demolition of contributing buildings could have direct and indirect effects on the characteristics that qualify the district for listing.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the No Master Plan Alternative, there may be potential effects on historic resources, although specific impacts cannot be predicted at this time because they would depend upon future projects that have not yet been developed. Generally, if the anticipated 25 percent of growth over the next 10 years results in the construction of new facilities or demolition of older facilities, historic resources could be impacted. Generally, future development is expected to occur through new construction and densification on the NSF Anacostia side and around the existing Mission/Administrative and Community Support core that exists on Bolling AFB. This core includes the Bolling AFB Historic District. Land uses—and therefore future building functions—recommend within and around the NRHP-eligible Bolling AFB Historic District consist of Town Center Mixed Use Area 1, Mission/Administrative and Military Family Housing. These

land use designations are consistent with the uses currently present in and around these contributing buildings. The land use recommended for the portion of NSF Anacostia that contains the two potential NRHP-eligible buildings is consistent with the present Mission/Administrative land use. The Master Plan's urban design framework is the element most likely to have a potential impact on the historic district through modification of existing building relationships and guidance for building siting and design. Generally, the modifications proposed—potential building infill locations, smaller setbacks, parking on the periphery, increased pedestrian walkability—are intended to protect and enhance the district. However, until specific projects are proposed, the effects on the historic district context are not concretely measurable.

Recommendations:

- To fully comply with applicable regulations, Joint Base Anacostia-Bolling will consult with the District of Columbia Historic Preservation Office (DCHPO) prior to construction of any future buildings to determine the appropriate level of investigation for historic resources. This is especially important within the NRHP-eligible Bolling AFB Historic District where the construction of new buildings or alteration and demolition of contributing buildings could have direct and indirect effects on the characteristics that qualify the district for listing.

4.2.3 Visual Resources

The visual impact assessment for the proposed land use configuration for Joint Base Anacostia-Bolling as presented by the Master Plan addresses potential changes to views that can be attributed to the proposed action. Impacts to views were determined based on an analysis of the existing quality of the view, the sensitivity of the view (such as important historic and cultural sites), and the anticipated relationship of the proposed design elements to the existing visual environment.

Visual impacts in the analysis presented below are described in the following categories:

- **Negligible impact** – The proposed action would not result in any visual changes, or the changes would not be noticeable.
- **Minor impact** – The proposed action would be visible, but would not interfere with views and would not change the character of the existing views.
- **Moderate impact** – The proposed action would be visible and would interfere with existing views, but would not change the character of the existing views.
- **Major impact** – The proposed action would be visible as a contrasting or dominant element that interferes with views and substantially changes the character of the existing views.
- **Beneficial impact** – The proposed action would improve a view or the visual appearance of an area.

Alternative A: No Action Alternative

Implementation of the No Action Alternative would result in no change on the installation aside from the three previously identified projects (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. Implementation of the No Action Alternative would result in negligible impacts on known visual resources.

Alternative B: No Master Plan Alternative

Generally, implementation of the No Master Plan Alternative would result in minor to moderate short-term visual impacts and minor to beneficial long-term impacts on visual resources—depending on the facilities sited and designed. Generally, if the anticipated 25 percent of growth over the next 10 years results in the construction of new facilities or demolition of older facilities, views could be impacted. Implementation of the No Master Plan Alternative would result in future base facilities and infrastructure sited on a project-by-project basis without a comprehensive, long-term guiding vision for their appropriate location or consistent design. The opportunity to implement a conscientious land use plan and infuse consistent, quality design throughout the base to enhance the installation's overall visual character would be lost.

Recommendations:

- To fully comply with applicable regulations, Joint Base Anacostia-Bolling will consult with review agencies such as the U.S. Commission of Fine Arts (CFA) and National Capital Planning Commission (NCPC) during the conceptual design phase of facilities to determine the appropriate level of recommendations for visual resources.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Generally, implementation of the Joint Base Master Plan Alternative would result in minor to moderate short-term visual impacts and beneficial long-term impacts on visual resources. Any future development would be directed to observe an Open Space/Outdoor Recreation land use designation along the entire length of the shoreline. This designation would act as a buffer for the most visually-accessible portion of the installation to outside views and the Master Plan would call for new enhancements to make it an even greater visual amenity. The most significant long-term visual change on base would occur in the north end of the installation where a greater concentration of development, such as a special use campus, is proposed; under the proposed urban design framework, buildings sited on the campus could stand between four and five stories tall. The visual character of Joint Base Anacostia-Bolling would experience major alterations as a result. However, such changes would be expected to represent a beneficial impact to the visual appearance of the base. The proposed land use plan would help focus development in appropriate areas, promoting orderliness and continuity throughout the site. The design framework would ensure consistency and quality throughout the installation.

However, until Joint Base Anacostia-Bolling begins to design and site facilities using the proposed land use plan and design framework, it is beyond the scope of this EA to analyze the specific impacts on major views from public areas such as Indigo Landing Marina, the Mount Vernon Trail, Hains Point/East Potomac Park, Buzzard Point, the Frederick Douglass Memorial Bridge or Malcolm X Avenue. Nevertheless, the implementation of this alternative is generally expected to have a beneficial impact on the installation as a whole.

Recommendations:

- To fully comply with applicable regulations, Joint Base Anacostia-Bolling will consult with review agencies such as the U.S. Commission of Fine Arts (CFA) and National Capital Planning Commission (NCPC) during the conceptual design phase of facilities to determine the appropriate level of Recommendations for visual resources.
- Joint Base Anacostia-Bolling will coordinate with its GSA and Homeland Security counterparts at St. Elizabeths as the Malcolm X Avenue interchange with I-295 is

redesigned; any changes to this roadway as a result of the St. Elizabeths project could impact the views to and from the base.

4.3 TRANSPORTATION

This section of the EA evaluates the transportation and parking impacts that would likely result from the implementation each of the alternatives. The projected traffic volumes are forecasts based on future background traffic volumes, proposed parking conditions, future site-generated trips, and future land use and traffic controls. This section is based on the information and analysis provided by the Joint Base Anacostia-Bolling Transportation Management Plan.

4.3.1 ROADWAYS AND TRAFFIC

Future traffic volumes for each of the alternatives were developed based on the proposed development within the installation, existing traffic patterns and typical traffic generation from each of the proposed uses. This analysis is based on the conservative approach that there would be limited improvement in mode splits. The assumption of this analysis is that approximately 75 percent of future traffic would enter the site via single occupancy vehicles. Any improvement in the mode split (i.e. reduction in single occupancy vehicles) would reduce the potential impact as described in this section of the Environmental Assessment.

As described in Section 3.3 of the Environmental Assessment document, the anticipated new development surrounding Joint Base Anacostia will include several planned roadway improvements as well as additional development. The new development that will have the largest direct impact on the Joint Base is the St. Elizabeths development. This project is expected to include approximately 14,000 people upon completion. A full traffic analysis is included in the existing EIS for the project. In addition, a supplemental study is being developed for the east campus which will include additional analysis of the surrounding road network. Since this analysis is being done concurrently with this assessment and the anticipated Joint Base development would result in a relatively minor increase of traffic relative to the overall volume (i.e. there would be a net increase of 1,242 vehicles entering or exiting the three gates during the peak morning hour and a net increase of 1,191 vehicles entering or existing the three gates during the peak afternoon hour). The incremental increases of the Joint Base under all three alternatives would result in a minor impact on the local road network. In conjunction with the development project at St. Elizabeths, an EIS is being produced that is expected to address cumulative impacts on the local road network. The Draft EIS release is anticipated in July 2010 and the Final EIS is anticipated in December 2010.

The following table provides a summary of each alternative and the additional volume of traffic expected to enter the installation in comparison to the existing volume. Based on this table and analysis, the relative increase in traffic volumes based on the additional traffic would increase approximately 11 – 39% during the future year peak hours.

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3334

Table 17: Existing and Projected Vehicle Trip Generation Estimates

	<i>AM Peak Hour</i>			<i>AM Total % Over Current Levels</i>	<i>PM Peak Hour</i>			<i>PM Total % Over Current Levels</i>
	<i>Inbound</i>	<i>Outbound</i>	<i>Total</i>		<i>Inbound</i>	<i>Outbound</i>	<i>Total</i>	
Existing Population (13,209 people)	2,804	466	3,270		516	2,537	3,053	
Alt A: No Action Alternative (1,500 people planned growth)	315	45	360	11%	60	285	345	11%
Alts B & C: 25% Growth (3,677 people*)	772	110	882	38%	148	698	846	39%
Total Increase								
Alt A: No Action	3,119	511	3,630		576	2,822	3,398	
Alts B & C: 25% Growth	3,891	621	4,512		724	3,520	4,244	
Net Total Increase								
Alt A: No Action	315	45	360	11%	60	285	345	11%
Alts B & C: 25% Growth	1,087	155	1,242	27%	208	983	1,191	28%

*25% of 14,709 (current population plus planned growth)

Source: AECOM and O.R. George & Associates, Inc.

3335

3336 In addition, these volumes were calculated based on the future land use, traffic controls and
3337 volumes assumed in each alternative. Based on this analysis the following section describes
3338 the impacts on the internal and external road network.

3339

3340 Alternative A: No Action Alternative

3341

3342 Under the No Action Alternative, the Joint Base would remain in its current state aside from the
3343 three projects previously outlined (NCR, JADOC, NSMA) that are currently undergoing/will
3344 undergo individual environmental reviews under NEPA. The No Action Alternative would not
3345 result in adverse impacts to transportation in the immediate plan area as described in
3346 Chapter 3. However, it would not actively support or promote any internal/external
3347 improvements or efficiency efforts either. Implementation of the No Action Alternative would
3348 result in a net increase of 360 (315 IN, 45 OUT) additional vehicles entering or exiting the
3349 installation during the AM peak hour and a net increase of 345 (60 IN, 285 OUT) additional
3350 vehicles entering or exiting the installation during the PM peak hour. In total, 705 additional peak
3351 hour vehicle trips would be generated under this alternative, representing an 11 percent net
3352 increase of vehicles over current levels. These additional vehicles would have minimal impact
3353 on the LOS at any of the internal intersections.

3354

Alternative B: No Master Plan Alternative

Implementation of the No Master Plan Alternative would result in a net increase of 1,242 (1,087 IN, 155 OUT) additional vehicles entering or exiting the installation during the AM peak hour and a net increase of 1,191 (208 IN, 983 OUT) additional vehicles entering or exiting the installation during the PM peak hour. In total, 2,433 additional vehicle trips would be generated under this alternative, representing a 27 percent net increase of vehicles over current levels. These additional vehicles would result in a minor to moderate decrease in the level of service at the internal intersections. This alternative would not have the benefit of a base-wide comprehensive, robust Traffic Management Plan, and any such actions, if they took place, would occur on a project-by-project basis.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Implementation of the Joint Base Master Plan Alternative would result in a net increase of 1,242 (1,087 IN, 155 OUT) additional vehicles entering or exiting the installation during the AM peak hour and a net increase of 1,191 (208 IN, 983 OUT) additional vehicles entering or exiting the installation during the PM peak hour. In total, 2,433 additional vehicle trips would be generated under this alternative, representing a 27 percent net increase of vehicle trips over current levels. These additional vehicles would result in a minor to moderate decrease in the level of service at any of the internal intersections.

Additionally, under the preferred alternative, heavy trucks that require inspection would shift from the South gate to a newly re-designed Firth-Sterling gate. As described in Section 3.3 of the EA document, approximately 70 trucks typically access the joint base through the South Gate during the peak AM period (6:30-9:30 a.m.) with an average of 23 vehicles per hour and 23 trucks exit the base (via the three gates) during the peak afternoon period (3:00-6:00 p.m.). Out of the 70 trucks entering the base in the peak AM period, only about eight are heavy trucks; out of the 23 trucks leaving the base, seven are heavy trucks. Given the small number of heavy trucks accessing the base during peak hours and the anticipated interchange improvements in the north, no adverse impact to the intersection by truck traffic is anticipated.

Recommendations:

- Joint Base Anacostia-Bolling will mitigate any vehicle trip increases through the implementation of a more robust Transportation Management Plan as outlined in the Joint Base Anacostia Bolling Traffic Management Plan. Based on the TMP, it is estimated that the number of parking spaces will be reduced, mass transit options will increase and single occupancy vehicles will decline over the next 10 years. The 27 percent net increase in vehicle trips will be mitigated by TMP measures. This will result in reducing the minor impact described in the alternative to no impact and under the most aggressive scenario would reduce the overall traffic entering the Joint Base.
- Joint Base Anacostia-Bolling will take the mix of trucks to be accommodated at Firth Sterling Gate into consideration when redesigning the new gate and such information will be made a part of future Environmental Assessments supporting that proposed action.

4.3.2 PARKING

Parking at the Joint Base currently features a ratio of 1:1.66 (spaces per employee), which does not meet the NCPC target of no more than one space per four employees. The higher ratio of parking present on Joint Base Anacostia-Bolling is the result of a number of factors including its

isolated location, length (approximately 3.3 miles long which makes walking between facilities difficult) and lack of access to mass transit via Metrorail (the closest station is just over 0.5 miles from the northernmost gate). However, Table 18 depicts the future parking scenario on base under the three alternatives:

Table 18: Future Base Population and Parking

	<i>Population</i>	<i>Parking Spaces</i>	<i>Parking Ratio</i>
Existing	13,209	7,980	1.66
Alt A: No Action	14,709	8,238	1.79
JADOC	200	120	-
BRAC	500	-	-
NSMA	800	138	-
Total No Action Increase	1,500	258	-
Alt B: +25% Increase	18,386	8,238	2.23
Alt C: +25% Increase	18,386	7,597	2.42
Lot removal with development		-383	

AECOM (Existing data only) and JB Anacostia-Bolling Transportation Management Plan

Alternative A: No Action Alternative

Under the No Action Alternative, the Joint Base would remain in its current state aside from the three projects previously outlined (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. The No Action Alternative would result in an increase of 258 new parking spaces as a result of the three planned projects (NCR, JADOC, NSMA), with a new parking ratio of 1:1.79 (spaces per employee).

Alternative B: No Master Plan Alternative

Implementation of the No Master Plan Alternative would result in population growth and potential adverse impacts on the defined NCPC parking ratio goal for the area. In addition to the previously identified projects (NCR, JADOC, NSMA) the base would grow by 25 percent over the next 10 years; however, there would be no base-wide guiding vision to direct future facility growth via a comprehensive land use plan and design framework.

If no additional parking spaces were built in association with future facilities then the parking ratio on Joint Base Anacostia-Bolling would shift to 1:2.23 (spaces per employee), approximately half of the NCPC target. However, under this alternative, projects would continue to be sited on a project-by-project basis, diminishing the opportunity for a fundamental change on the joint base through a new development approach (strategically cluster buildings to increase walkability within the installation, minimize and site parking to the periphery) and new Transportation Management Program initiatives.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Implementation of the Joint Base Master Plan Alternative would result in population growth and potential positive impacts toward NCPC parking ratio goals. In addition to the previously identified projects (NCR, JADOC, NSMA) the base would grow by 25 percent over the next 10 years; however, under this alternative there would be a base-wide guiding vision to direct future facility growth via a comprehensive land use plan and design framework.

Under this alternative, no additional parking facilities would be built in association with future facilities and several existing lots would be permanently removed from the parking inventory. Under this alternative, the parking ratio on Joint Base Anacostia-Bolling would become 1:2.42 (spaces per employee). While the ratio of people to parking spaces is approximately half of the NCPC stated goal for the site, the Master Plan would begin the process of changing the joint base land configuration and transportation management program. The Master Plan Alternative would bring about building clustering and densification, emphasizing pedestrian connections and alternative modes of travel between base buildings and sites.

The Master Plan Alternative and its associated Transportation Management Program would increase and encourage the development of new commuter options such as van pooling, regular shuttles, and incentive programs.

4.3.3 PUBLIC TRANSPORTATION

Alternative A: No Action Alternative

Under the No Action Alternative, the Joint Base would remain in its current state aside from the three projects previously outlined (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. The No Action Alternative would not result in adverse impacts to the transportation system in the immediate plan area as described in Chapter 3. However, it would not actively support or promote any internal/external improvements or efficiency efforts either.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative the Joint Base would remain in its current state aside from the three projects previously outlined (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. Additionally, the base would grow by 25 percent over the next 10 years with new base users needing to find a mode of travel to and from work; however, under this alternative there would be no guiding vision for future base growth. There would be no comprehensive land use plan and design framework to strategically guide future growth to the most logical land use locations, or create dense nodes of activity to increase pedestrian walkability, or foster critical mass for mass transit services such as regular shuttles by clustering complementary services. Under this alternative, improvements and program initiatives—if any—would be implemented on a project-by-project basis.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the No Master Plan Alternative the Joint Base would grow as a result of the three previously-identified projects (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. Additionally, the base would grow by 25 percent over the next 10 years with new base users needing to find a mode of travel to and from work. Under the Joint Base Master Plan Alternative there would be a guiding vision for future base

growth. There would be a comprehensive land use plan and design framework to strategically guide future growth to the most logical land use locations, create dense nodes of activity to increase pedestrian walkability, and foster critical mass for mass transit options such as regular shuttles by clustering complementary services. Under this alternative, internal transportation improvements and program initiatives would be implemented under a new TMP and transportation coordinator for the Joint Base.

4.3.4 PEDESTRIAN/BICYCLE CIRCULATION

Alternative A: No Action Alternative

Under the No Action Alternative, the Joint Base would remain in its current state aside from the three projects previously outlined (NCR, JADOC, NSMA) that are currently undergoing or would need to undergo individual environmental reviews. The No Action Alternative would not result in adverse impacts to transportation in the immediate plan area as described in Chapter 3. However, it would not actively support or promote any internal/external improvements or efficiency efforts either.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative the Joint Base would grow as a result of the three previously-identified projects (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. Additionally, the base would grow by 25 percent over the next 10 years producing new base users; however, under this alternative there would be no guiding vision for future base growth. There would be no comprehensive land use plan and design framework to strategically guide future growth to the most logical land use locations, or create new and enhanced pedestrian and bicycle circulation routes on base. Under this alternative, improvements—if any—would be implemented on a project-by-project basis.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the No Master Plan Alternative the Joint Base would grow as a result of the three previously-identified projects (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. Additionally, the base would grow by 25 percent over the next 10 years producing new base users. Under the Joint Base Master Plan Alternative there would be a guiding vision for future base growth. There would be a comprehensive land use plan and design framework to strategically guide future growth to the most logical land use locations and create new and enhanced pedestrian and bicycle circulation routes on base. The Master Plan would extend the levee trail, create a running circuit throughout the base and generally improve base connectivity. Furthermore, under this alternative, new alternative transportation program initiatives would be implemented under a TMP.

4.3.5 AIR TRANSPORTATION

Alternative A: No Action Alternative

Under the No Action Alternative, the Joint Base would remain in its current state aside from the three projects previously outlined (NCR, JADOC, NSMA) that are currently undergoing or would need to undergo individual environmental reviews. All air operations as described in Chapter 3 (HMX-1 and Air Force landing zone) would remain in their present locations.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, all air operations on the Joint Base (HMX-1 and Air Force landing zone) would remain in their current locations. This would result in no adverse impact to current air operations. In addition to three previously identified projects (NCR, JADOC, NSMA), the base population would grow by 25 percent over the next 10 years under this alternative. Implementation of the No Master Plan Alternative would result in future base facilities and infrastructure sited on a project-by-project basis without a comprehensive, long-term guiding vision for their appropriate location or design.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the Joint Base Master Plan Alternative, there would be no adverse impact to air operations on the Joint Base. HMX-1 air operations and the Air Force landing zone would remain in their current locations. In addition to three previously identified projects (NCR, JADOC, NSMA), the base population would grow by 25 percent over the next 10 years under this alternative. Implementation of the Joint Base Master Plan alternative would result in future base facilities and infrastructure sited using a comprehensive, long-term guiding vision for their appropriate location or design.

4.4 PHYSICAL AND NATURAL RESOURCES

An evaluation of the potential impacts on physical and natural resources is part of this EA.

4.4.1 GEOLOGY, TOPOGRAPHY AND SOILS

Alternative A: No Action Alternative

Under the No Action Alternative, the Joint Base would remain in its current state aside from the three projects previously identified (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. There would be no impact on geology, topography or soils.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, there would be potential effects on geology, topography and soils. Generally, if the anticipated 25 percent of growth over the next 10 years results in the construction of new facilities or demolition of older facilities, ground disturbance would occur. The soils present on Joint Base Anacostia-Bolling may require special foundation design consideration given the fact past facilities, namely on NSF Anacostia, have experienced settling. Despite the lack of a siting plan, the deficiencies of the soils for construction would be fully considered during project planning and design. However, implementation of the No Master Plan Alternative would result in future base facilities and infrastructure sited on a project-by-project basis without a comprehensive, long-term guiding vision for their appropriate land use area and design.

Recommendations:

- To fully comply with applicable regulations, for each future project proposed, Joint Base Anacostia-Bolling will prepare an erosion and sediment control plan to be reviewed and approved by the DDOE, Watershed Protection Division, for land disturbing activities

affecting more than 50 square feet. Preparation and implementation of a DDOE-approved erosion and sediment control plan would ensure that erosion-related impacts of construction activities are minimal.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the Joint Base Master Plan Alternative, there would be potential effects on geology, topography and soils. Generally, if the anticipated 25 percent of growth over the next 10 years results in the construction of new facilities or demolition of older facilities, ground disturbance would occur. The soils present on Joint Base Anacostia-Bolling may require special foundation design consideration given the fact past facilities, namely on NSF Anacostia, have experienced settling. Despite a lack of a siting plan, the deficiencies of the soils for construction would be fully considered during project planning and design. However, implementation of the Joint Base Master Plan Alternative would result in future base facilities and infrastructure sited in the context of a comprehensive, long-term guiding vision for land use and design.

Recommendations:

- To fully comply with applicable regulations, Joint Base Anacostia-Bolling will prepare an erosion and sediment control plan for each future project proposed, to be reviewed and approved by the DDOE, Watershed Protection Division, for land disturbing activities affecting more than 50 square feet. Preparation and implementation of a DDOE-approved erosion and sediment control plan would ensure that erosion-related impacts of construction activities are minimal.

4.4.2 SHORELINE

Alternative A: No Action Alternative

Under the No Action Alternative, the installation would remain in its current state aside from the three projects previously outlined (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. There would be no impact on the shoreline.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, there would be no known or anticipated adverse impacts on the installation's shoreline. Generally, in addition to the previously identified projects (NCR, JADOC, NSMA) the base would grow by 25 percent over the next 10 years; however, there would be no comprehensive guiding vision to direct that growth or land use plan and design framework to enhance the installation's shoreline. Such activity, if it took place, would continue to be implemented on a project-by-project basis. The opportunity to implement a consistent greenway along the length of the shoreline in the form of a consistent Open Space/Recreational land use and increase its level of recreational enjoyment by internal base users would likely be lost.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the Joint Base Master Plan Alternative, the physical state of the installation's shoreline would be permanently and beneficially altered. Generally, in addition to the previously identified projects (NCR, JADOC, NSMA) the base would grow by 25 percent over the next 10 years; however, under this alternative there would be a comprehensive guiding vision to direct that

growth. The Master Plan would eliminate the present inconsistent land uses and designate the entire length of the shoreline as an Open Space/Recreation land use. This would introduce continuity, ensure a consistent greenway for the enjoyment of base users and help enhance the overall visual quality of the installation.

4.4.3 FLOODPLAINS

Alternative A: No Action Alternative

Under the No Action Alternative, the installation would remain in its current state aside from the three previously identified projects (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA. There would be no impacts to the 100-year or 500-year floodplains beyond those that the NCR, JADOC and NSMA projects might create.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, there may be impacts to the 100- and 500-year floodplains of the Anacostia and Potomac rivers. Mission requirements and the need for new facilities on the base would grow by another 25 percent over the next 10 years; however, under this alternative there would be no guiding vision to direct that future growth. Under the No Master Plan Alternative facilities would continue to be sited on a project-by-project basis with no comprehensive land use plan or design framework. There would be no Open Space/ Outdoor Recreation land use designation along the length of the shoreline or the introduction of additional sustainability techniques to help mitigate the impact of new and existing development on water resources. Such activity, if it took place, would continue to be implemented on a project-by-project basis.

Recommendations:

- Joint Base Anacostia-Bolling will minimize potential flood damage to new base facilities within designated floodplains through the use of new techniques in the siting, design and construction of such facilities. Techniques could include elevating as much of the building as possible above the flood level, using the lower building level(s) for uninhabited uses such as parking and using flood-damage-resistant materials.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Implementation of the Joint Base Master Plan Alternative may result in impacts to the 100-year and 500-year floodplains of the Anacostia and Potomac rivers. The base would grow by another 25 percent over the next 10 years and in all likelihood produce the need for additional facilities. The Master Plan would permit additional development across many portions of the installation including significant facility placement on NSF Anacostia, which falls within the 500-year floodplain according to FEMA FIRM Map 110001 0025B (but could fall entirely within a 100-year floodplain if the earth levee is not re-certified by the Army Corps of Engineers and the new FEMA flood maps are redrawn). However, floodplain issues have existed on site since the installation's establishment. Under the Master Plan alternative there would at least be a comprehensive guiding vision to strategically direct future growth, encourage quality design and integrate new sustainability techniques such as bioswales and rain gardens to help control and mitigate the impact of new and existing development on water resources.

Recommendations:

- Joint Base Anacostia-Bolling will minimize potential flood damage to new base facilities within designated floodplains through the use of new techniques in the siting, design and construction of such facilities. Techniques could include elevating as much of the building as possible above the flood level, using the lower building level(s) for uninhabited uses such as parking and using flood-damage-resistant materials.

4.4 UTILITIES/INFRASTRUCTURE

An evaluation of the potential impacts on utilities/infrastructure is part of this EA.

4.5.1 UTILITIES

Alternative A: No Action Alternative

Under the No Action Alternative, primary utilities that service the base such as water, wastewater, electricity and natural gas would remain as at present. There would be no impacts on these utilities aside from those projects previously identified (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, primary utilities that service the base such as water, wastewater, electricity and natural gas would be impacted, although the specific impacts would be difficult to predict at this time before new projects are planned and designed. The base would grow by 25 percent over the next 10 years and create additional utility demands and the need for additional facilities. While supply is generally considered adequate, all the primary utilities except for natural gas are presently in need of some form of infrastructure upgrades on the installation. Under the No Master Plan Alternative facilities would continue to be sited on a project-by-project basis with no comprehensive land use plan, design framework or overarching policy document for guidance.

Recommendations:

- Joint Base Anacostia-Bolling will study the adequacy of existing utility infrastructure following the administrative join date and establish a program for needed upgrades and efficiencies.
- Joint Base Anacostia-Bolling will coordinate with the appropriate agencies and authorities on any preconstruction surveys that are necessary for construction and demolition projects.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the Joint Base Master Plan Alternative, primary utilities that service the base such as water, wastewater, electricity and natural gas would be impacted, although the specific impacts would be difficult to predict until new projects are planned and designed. The base would grow by 25 percent over the next 10 years and in all likelihood produce the need for additional facilities and additional utility demands. While supply is generally considered adequate, all the primary utilities except for natural gas are presently in need of some form of infrastructure upgrades on the installation. However, under this alternative there would at least be a comprehensive guiding vision to strategically direct future growth, encourage quality design and integrate new sustainability strategies such as the incorporation of renewable energy production on base to lessen the installation's traditional energy and resource demands. Furthermore, the

preferred alternative would provide an overarching policy document encouraging the pursuit of unifying, base-wide solutions.

Recommendations:

- Joint Base Anacostia-Bolling will study the adequacy of existing utility infrastructure following the administrative join date and establish a program for needed upgrades and efficiencies.
- Joint Base Anacostia-Bolling will coordinate with the appropriate agencies and authorities on any preconstruction surveys that are necessary for construction and demolition projects.

4.5.2 ENERGY CONSERVATION

Alternative A: No Action Alternative

Under the No Action Alternative, energy conservation efforts on base would remain as at present. There would be no impacts on base efforts aside from those generated by those projects previously identified (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, there would be additional pressure on base energy demands as the base develops that could lead to challenges and/or impacts on base energy conservation efforts. In addition to three previously identified projects (NCR, JADOC, NSMA), the base population would grow by 25 percent over the next 10 years under this alternative and in all likelihood create additional energy demands and the need for additional facilities. Under the No Master Plan Alternative there would be no vision to help guide the placement and design of future facilities on the installation, nor would there be an expanded set of energy conservation strategies intended to produce a “greener” installation. Some of these strategies include increased use of greenroofs or “cool roof” materials to reduce building heat absorption during the warm months that leads to increased cooling demands, and the installation of LID landscaping and rain barrels for rainwater recapture in order to reduce the amount of potable water required for landscaping needs. Such activity, if it took place, would continue to be implemented on a project-by-project basis.

Recommendations:

- Joint Base Anacostia-Bolling will incorporate energy conservation strategies into future facilities planning.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the Joint Base Master Plan Alternative, there would be additional pressure on base energy demands as the base develops that could lead to challenges and/or impacts on base energy conservation efforts. In addition to three previously identified projects (NCR, JADOC, NSMA), the base population would grow by another 25 percent over the next 10 years and in all likelihood create additional energy demands and the need for additional facilities. However, under this alternative there would at least be a comprehensive guiding vision to strategically direct future growth, encourage quality design and integrate new sustainability strategies to lessen the installation’s traditional energy and resource demands. For example, Master Plan strategies call for the use of greenroofs or “cool roof” materials to reduce building heat

absorption during the warm months that leads to increased cooling demands, and the installation of LID landscaping and rain barrels for rainwater recapture in order to reduce the amount of potable water required for landscaping needs. Furthermore, the preferred alternative would provide an overarching policy document encouraging the pursuit of many base-wide sustainable solutions.

4.5.3 STORMWATER MANAGEMENT

Alternative A: No Master Plan Alternative

Under the No Action Alternative, stormwater management on the base would remain as at present. There would be no impacts on the current state of the stormwater management system and no improvement in water quality aside from those projects previously identified (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, as the Joint Base develops, there would be additional pressures on the installation's stormwater management system that could lead to adverse impacts. In addition to three previously identified projects (NCR, JADOC, NSMA), the base population would grow by 25 percent over the next 10 years. Additional facilities could be sited on the installation in order to accommodate this growth which would lead to an increase in impermeable surfaces such as parking lot pavement and building footprints on base. The presence of additional impermeable surfaces on base would generate a greater volume of stormwater with fewer opportunities for natural absorption into the ground. This in turn, would require additional capacity for management. However, under this alternative, base facilities and infrastructure would continue to be sited on a project-by-project basis without a comprehensive, long-term guiding vision. The opportunity to strategically cluster buildings, link to alternative transit opportunities to reduce the need for commuter parking lots, and integrate a base-wide approach to low-impact development (LID) design techniques such as bioswales, rain gardens and porous pavement to facilitate natural stormwater recharge and volume control into future projects, would be lost.

Recommendations:

- Joint Base Anacostia-Bolling will prepare a stormwater management plan prior to the disturbance of more than 5,000 square feet of land for a project, per D.C. regulations.
- Joint Base Anacostia-Bolling will ensure that stormwater best management practices are employed during project demolition and construction to minimize sediment loads in stormwater runoff.
- Joint Base Anacostia-Bolling will ensure that low-impact stormwater management techniques are incorporated into as many proposed facilities as possible.
- Joint Base Anacostia-Bolling will ensure that regulated substances are stored in/on an impervious area and away from surface water and storm drains.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Implementation of the Joint Base Master Plan Alternative would result in additional pressures on the installation's stormwater management system that could lead to adverse impacts as the base develops. In addition to three previously identified projects (NCR, JADOC, NSMA), the

base population would grow by 25 percent over the next 10 years. The Master Plan allows for the accommodation of this growth through the construction of new infill development. Minor impacts to the stormwater collection system would result during the construction phase of each project and future development would result in a cumulative increase of impervious surfaces across the base in the form of building rooftops and parking facilities. This could contribute to an increase in the volume of stormwater generated on the installation and additional opportunities for non-point pollutants such as oils on roads to make their way into the water prior to its discharge into nearby waterways.

However, under the preferred alternative, strategic land use is a priority of the Master Plan with an emphasis on the clustering and densification of facilities to curtail impervious surfaces. The Master Plan would call for a continuous Open Space/Outdoor Recreation land use buffer along the installation's shoreline and the incorporation of LID design techniques and landscaping into future site plans across the Joint Base. The incorporation of more sustainable strategies—such as bioswales, rain gardens and pervious pavement—would help offset the generation of additional stormwater flow, provide opportunity for absorption and cleansing, and improve the longevity and overall effectiveness of the Joint Base stormwater management system.

Recommendations:

- Joint Base Anacostia-Bolling will prepare a stormwater management plan prior to the disturbance of more than 5,000 square feet of land for a project, per D.C. regulations.
- Joint Base Anacostia-Bolling will ensure that stormwater best management practices are employed during project demolition and construction to minimize sediment loads in stormwater runoff.
- Joint Base Anacostia-Bolling will ensure that low-impact stormwater management techniques are incorporated into as many proposed facilities as possible.
- Joint Base Anacostia-Bolling will ensure that regulated substances are stored in/on an impervious area and away from surface water and storm drains.

4.5.4 HAZARDOUS MATERIALS AND WASTE

Alternative A: No Action Alternative

Under the No Action Alternative, hazardous materials and waste operations on the base would remain as at present. There would be no impacts on the current state of operating procedures or on identified IR program sites aside from those projects previously identified (NCR, JADOC, NSMA) that are currently undergoing/will undergo individual environmental reviews under NEPA.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, there would be no anticipated adverse impacts on current procedures for hazardous materials and waste generation, storage and disposal or on identified IR program sites. In addition to three previously-identified projects (NCR, JADOC, NSMA), the base population would grow by 25 percent over the next 10 years. Additional facilities could be sited on the installation in order to accommodate this growth and depending on the mission needs of the facilities, could lead to an increase in the volume of hazardous materials generated, handled, stored, and disposed of on base. However, it is expected any future facilities would comply with all regulations just as current base facilities do. In terms of IR program sites, no effect on the program is anticipated. However, under this alternative, base

facilities and infrastructure would continue to be sited on a project-by-project basis without a comprehensive, long-term guiding vision. The opportunity to implement a land use and design framework to address any future joint base installation growth would be lost.

Recommendations:

- Joint Base Anacostia-Bolling will ensure that all hazardous materials and waste are handled in accordance with applicable Navy guidelines and requirements, and local and Federal laws and regulations. Proper use, storage, handling, and disposal of hazardous materials and waste would ensure no adverse impacts to the environment.
- Prior to the beginning of any soil disturbing activities for the construction of future facilities, Joint Base Anacostia-Bolling will review the status of IR program sites and conduct any additional investigations, as needed. If the presence of contaminated soils is confirmed, appropriate measures will be taken to remove and dispose of the soils in accordance with the applicable regulations.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the Joint Base Master Plan Alternative, there would be no anticipated adverse impacts on the current procedures for hazardous materials and waste generation, storage and disposal or on identified IR program sites. In addition to three previously identified projects (NCR, JADOC, NSMA), the base population would grow by 25 percent over the next 10 years. Additional facilities could be sited on the installation in order to accommodate this growth and dependent upon the mission needs of the facilities, could lead to an increase in the volume of hazardous materials generated, handled, stored, and disposed of on base. However, it is expected any future facilities would comply with all regulations just as current base facilities do. In terms of IR program sites, no effect on the program is anticipated. Under this alternative, base facilities and infrastructure would be sited with respect to a comprehensive, long-term guiding vision. The opportunity to implement a land use and design framework to address any future Joint Base installation growth would be in place.

Recommendations:

- Joint Base Anacostia-Bolling will ensure that all hazardous materials and waste are handled in accordance with applicable Navy guidelines and requirements, and local and Federal laws and regulations. Proper storage, handling, and disposal of hazardous materials and waste would ensure no adverse impacts to the environment.
- Prior to the beginning of any soil disturbing activities for the construction of future facilities, Joint Base Anacostia-Bolling will review the status of IR program sites and conduct any additional investigations, as needed. If the presence of contaminated soils is confirmed, appropriate measures will be taken to remove and dispose of the soils in accordance with the applicable regulations.

4.6 AIR QUALITY

Alternative A: No Action Alternative

Under the No Action Alternative, there would be no impacts on existing air quality conditions aside from the three projects previously identified (NCR, JADOC, NSMA), that are currently undergoing/will undergo individual environmental reviews under NEPA. Air quality impacts would result from emissions from stationary sources of air pollutants on base—such as boilers, generators, fuel storage, etc.—as well as those emissions generated from additional vehicle

traffic. As noted earlier, until facilities are identified and designed, stationary sources of pollutants are un-measurable for development impacts. As for mobile emissions caused by vehicle traffic, 705 additional daily vehicle trips above current levels would be generated under this alternative.

Alternative B: No Master Plan Alternative

Implementation of the No Master Plan Alternative would result in impacts on existing air quality conditions due to planned growth projects (NCR, JADOC, NSMA), and an additional 25 percent increase in base growth over 10 years. Air quality impacts would result from emissions from stationary sources of air pollutants on base—such as facility boilers, generators, fuel storage, etc.—as well as those emissions associated with additional vehicle traffic generated. As noted earlier, until facilities are identified and designed, stationary sources of pollutants are not measurable for development impacts. As for mobile emissions caused by vehicle traffic, 2,433 additional daily vehicle trips above current levels would be generated under this alternative. However, under this alternative these additional vehicle trips would result without a comprehensive Transportation Management Plan to reduce single-occupant vehicle travel and facilitate alternative modes of transportation to/from and around the installation. This alternative also would not have a future land use plan and design framework to steer facilities to appropriate co-locations with similar uses nor increase internal connectivity through additional pedestrian, bicycle and mass transit linkages.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Implementation of the Joint Base Master Plan Alternative would result in impacts on existing air quality conditions due to planned growth projects (NCR, JADOC, NSMA), and an additional 25 percent increase in base growth over 10 years. Air quality impacts would result from emissions from stationary sources of air pollutants on base—such as facility boilers, generators, fuel storage, etc.—as well as those emissions associated with additional vehicle traffic generated. As noted earlier, until facilities are identified and designed, stationary sources of pollutants are not measurable for development impacts. As for mobile emissions caused by vehicle traffic, 2,433 additional daily vehicle trips above current levels would be generated under this alternative. However, under this alternative these additional vehicle trips would be mitigated through a comprehensive Transportation Management Plan to reduce single-occupant vehicle travel and facilitate alternative modes of transportation to/from and around the installation. This alternative also would come with a future land use plan and design framework to steer facilities to appropriate co-locations with similar uses and increase internal connectivity through additional pedestrian, bicycle and mass transit linkages.

Recommendations:

- Joint Base Anacostia-Bolling will mitigate any vehicle trip increases through the implementation of a more robust Traffic Management Plan as outlined in the Joint Base Anacostia-Bolling Traffic Management Plan. Based on the TMP, it is estimated that parking would be reduced, mass transit options increase and single occupancy vehicles will decline over the next 10 years. This will result in reducing the moderate impact described to minor impact and under the most aggressive scenario would reduce the overall traffic entering the Joint Base. Such action will help curtail mobile emissions caused by additional base user growth.

4.7 NOISE

Alternative A: No Action Alternative

Under the No Action Alternative, there would be no changes to existing noise levels with the exception of those projects already identified (NCR, JADOC, NSMA), that are currently undergoing/will undergo individual environmental reviews under NEPA.

Alternative B: No Master Plan Alternative

Under the No Master Plan Alternative, there would be minor impacts on ambient noise levels. With a base population increase of 25 percent over 10 years, an increase in local traffic from the operation of equipment and vehicles during any future construction would result and depending on the facilities sited, ambient noise levels in the long term could increase. Most of the existing land uses on the Joint Base are devoted to Mission/Administrative, Community Support, Family Housing or Logistics/Industrial so it is not likely future uses would be incompatible with these current uses, thereby producing consistently higher levels of noise than those currently experienced within the base environment. However, under this alternative, base facilities and infrastructure would continue to be sited on a project-by-project basis without a comprehensive, long-term guiding vision. The opportunity to implement a land use and design framework to address any future Joint Base installation growth would be lost.

Alternative C: Joint Base Master Plan Alternative (Preferred)

Under the No Master Plan Alternative, there would be minor impacts on ambient noise levels. With a base population increase of 25 percent over 10 years, an increase in local traffic from the operation of equipment and vehicles during any future construction would result and depending on the facilities sited, ambient noise levels in the long term could increase. Most of the existing land uses on the Joint Base are devoted to Mission/Administrative, Community Support, Family Housing or Logistics/Industrial so it is not likely future uses would be incompatible with these current uses, thereby producing consistently higher levels of noise than those currently experienced within the base environment. Two notable changes that could influence the location of noise generators relate to the relocation of two key facilities. HMX-1 air operations would remain in its current location but the Air Force helipad would be relocated from a site in the middle of the installation to a more remote site in the southern portion of the installation in order to facilitate more effective land use. While the helipad is infrequently used for helicopter operations—no more than a few times a year—it would be located in an area close to family housing. This could produce nuisance noise for residents on occasion. The truck inspection area at the South Gate would be moved to the Firth Sterling Gate in the north in order to meet anti-terrorism force protections standards and position the gate closer to the destination of many trucks without having trucks transverse the entire length of the base. This area currently features a number of light industrial functions so there should be no significant impact on noise levels, as a result, and it may actually reduce noise on the base by limiting internal circulation of truck traffic. Under this alternative, base facilities and infrastructure would be sited with a comprehensive, long-term guiding vision. The opportunity to implement a land use and design framework to address any future Joint Base installation growth would be in place.

4.8 CUMULATIVE IMPACTS PROJECTS

Cumulative impacts are “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7).

As cumulative impacts are discussed it is important to reiterate that the new personnel growth (25 percent over the next 10 years) associated with the proposed action is a projection based on past installation growth trends and potential future Navy and Air Force needs. However, the growth is by no means exact or guaranteed to happen. As a general policy document primarily providing guidance for a land use and a design framework, specific impacts are difficult to measure at this stage. This is due to the fact that the proposed action does not come with a schedule of development projects nor does it include a specific list of construction and demolition projects; future facilities, if any, will be determined and evaluated for environmental impacts when those projects are identified, parameters defined and impacts are measurable. Still, it is recognized a general discussion of the proposed action in the greater context of the study area is necessary.

As explained in Chapter 4, the proposed action under either action alternative would generally range between no impacts to negligible impacts, minor to moderate impacts or beneficial impacts. The table below illustrates how the proposed action under either alternative would generally impact the human environment. For those resources with no impacts to negligible impacts listed, the proposed action would not generate any significant cumulative impacts in these areas.

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Table 19: Summary of Alternative Impacts

<i>Issue/Resource</i>	<i>No Master Plan Alternative</i>	<i>Master Plan Alternative</i>
Community Resources		
Land Use Patterns	Minor - Moderate	Beneficial
Planning Policies, Initiatives and Projects	No - Negligible	Beneficial
Waterfront Access	No - Negligible	No - Negligible
Cultural Resources		
Archaeological Resources	No - Negligible	No - Negligible
Historic Resources	Minor - Moderate	Beneficial
Visual Resources	Minor - Moderate	Minor - Moderate
Transportation		
Roadways and Traffic	Minor - Moderate	Minor - Moderate
Parking	Minor - Moderate	Beneficial
Public Transportation	No - Negligible	Beneficial
Pedestrian/Bicycle Circulation	No - Negligible	Beneficial
Physical and Natural		
Geology, Topography, Soils	Minor - Moderate	Minor - Moderate
Shoreline	No - Negligible	Beneficial
Floodplains	Minor - Moderate	Minor - Moderate
Utilities/Infrastructure		
Utilities	Minor - Moderate	Minor - Moderate
Energy Conservation	Minor - Moderate	Beneficial
Stormwater Management	Minor - Moderate	Beneficial
Hazardous Materials & Waste	No - Negligible	No - Negligible
Air Quality	Minor - Moderate	Minor - Moderate
Noise	Minor - Moderate	Minor - Moderate

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Other projects currently planned for the area are expected to affect transportation, air quality and noise—although in a much more substantial way than the proposed action. There are several plans for development in the vicinity of Joint Base Anacostia-Bolling indicating substantial change in the area's future. Development plans within the study area which could generate cumulative impacts when considered together with the impacts of the proposed action include:

- The development of St. Elizabeths hospital complex as a consolidated administrative complex for the Department of Homeland Security.
- The development of Poplar Point into a mixed-use development.
- The redevelopment of Barry Farms low-income housing into a mixed-income, mixed-use community.
- The replacement of the Frederick Douglass Memorial Bridge and enhancement of South Capitol Street.
- The replacement of the 11th Street Bridge.

- The construction of facility upgrades at Blue Plains Waste Water Treatment Plant.

These projects together will generate cumulative traffic impacts along with associated air quality and noise impacts. Transportation planning is a concern for this part of the District of Columbia and multiple roadway and transit improvements are being planned or underway to address the expected increase in local traffic and employment.

For those projects with Federal involvement or funds, NEPA documentation has been prepared or will be prepared to evaluate the potential impacts of such actions and make recommendations for appropriate recommendations measures. Continuation of these planning efforts and the Navy's participation in them for its undertakings at Joint Base Anacostia-Bolling will ensure that the cumulative impacts are properly minimized and mitigated.

4.9 CONCLUSION

Based on the above analyses, the proposed implementation of the Joint Base Master Plan under either the Joint Base Master Plan Alternative (preferred) or the No Master Plan Alternative would not result in significant adverse impacts on the human environment. Preparation of an EIS is not required. However, when future projects are identified for the Joint Base, they should undergo individual environmental reviews using the NEPA process.

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4267 **6.0 LIST OF PREPARERS AND REVIEWERS**

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4269 This Environmental Assessment was prepared by personnel at:

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4272 **601 Prince Street**
4273 **Alexandria, VA 22314**

4274
4275 **and**

4276
4277 **675 N. Washington Street, Suite 300**
4278 **Alexandria, VA 22314**

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4280
4281
4282 Key personnel included:

4283
4284 **Paul Moyer, AICP, Principal in Charge:** 23 years of experience in urban planning.
4285 B.A. Urban Planning, 1987, University of Cincinnati

4286
4287 **Anita Bullock, Project Manager/Senior Planner:** 24 years of experience in facilities operations,
4288 maintenance and construction, land management and urban planning.

4289 M.A. Urban and Regional Planning, anticipated 2010, Virginia Tech

4290 M.A. International Relations, 2002, University of Oklahoma

4291 B.S. Industrial Engineering and Operations Research, 1986, Virginia Tech

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4293 **Penelope Douglas, Environmental Planner:** 40 years of experience in environmental and natural
4294 resource planning and environmental impact assessment.

4295 M.A. Geography/Environmental Analysis, 1985, University of Maryland

4296 B.S. Natural Resource Planning, 1970, University of Michigan

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4298 **Andy Boenau, AICP, Senior Transportation Planner:** 12 years of experience in multimodal planning.
4299 B.S. Civil Engineering, 1998, Virginia Tech

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4301 **Laurant Cartayrade, Environmental Planner:** 9 years of experience in environmental planning.

4302 Ph.D. History, 1997, University of Maryland-College Park

4303 M.A. History, 1991, University of Maryland-College Park

4304 B.A., 1984, University of Paris IV-Sorbonne,

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4306 **Laura Baker, Planner**

4307 M.U.R.P, 2009, Virginia Commonwealth University

4308 B.A., 2005, Pennsylvania State University-University Park

4320	7.0 APPENDIX
4321	
4322	7.1 Preliminary Distribution List
4323	
4324	Federal
4325	District Representative – Eleanor Holmes Norton
4326	National Capital Planning Commission
4327	Commission of Fine Arts
4328	Department of Homeland Security
4329	General Services Administration
4330	Advisory Council on Historic Preservation
4331	Council on Environmental Quality
4332	U.S. Environmental Protection Agency
4333	National Park Service
4334	
4335	Regional
4336	Washington Metropolitan Area Transit Authority
4337	
4338	District of Columbia
4339	Executive Office of the Mayor – Adrian Fenty
4340	Ward 8 Council Member – Marion Barry
4341	D.C. Office of Planning
4342	D.C. Historic Preservation Office
4343	D.C. Department of Public Works
4344	D.C. Department of Transportation
4345	D.C. Water and Sewer Authority
4346	D.C. Department of the Environment
4347	D.C. Department of Fire and Emergency Medical Services
4348	
4349	Advisory Neighborhood Commissions
4350	ANC 8A
4351	ANC 8B
4352	ANC 8C
4353	ANC 8D
4354	ANC 8E
4355	
4356	Local Libraries
4357	Parklands – Turner
4358	1700 Alabama Avenue, SE
4359	
4360	Washington Highlands
4361	115 Atlantic Street, SW
4362	
4363	Other Organizations/Groups
4364	National Trust for Historic Preservation
4365	DC Preservation League
4366	Washington Area Bicyclists Association
4367	Washington Gas
4368	Potomac Electric Power Company
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7.2 STAKEHOLDER AGENCY AND PUBLIC MEETING TIMELINE

June 2, 2009 - Preliminary Meeting with the National Capitol Planning Commission (NCPCC)

January 19, 2010 - Scoping Meeting with NCPCC and the Commission on Fine Arts (CFA)

February 1, 2010 - Coordination Meeting with the General Services Administration (GSA) and the Department of Homeland Security (DHS) regarding St. Elizabeths and the Joint Base

March 23, 2010 - Joint Base Master Plan Draft Presentation to NCPCC, CFA and the District of Columbia Historic Preservation Office (DC HPO)

July 8, 2010 - Meeting with the District of Columbia Department of Transportation (DDOT) and the Office of Planning (DCOP)

July 20, 2010 - Meeting with City Council Chairman Vincent Gray and Councilmember Marion Barry

August 19, 2010 - Meeting with Arrington Dixon, NCPCC Commissioner and Chairman of the Anacostia Coordinating Council

August 23, 2010 - Briefing to Councilmember Marion Barry

September 1, 2010 - Press release sent out announcing Public Open House on September 15, 2010

September 8, 2010 - Meeting with Advisory Neighborhood Commission for Ward 8C (ANC 8C)

September 15, 2010 - Public Open House held at the Petey Green Center in Anacostia

7.3 PUBLIC COMMENT SUMMARY

The following section provides a summary of general comments received during the above listed meetings. They have been listed in the following categories:

General
Visual / Aesthetic
Historic / Environmental
Traffic / Transportation

Many of these comments have been addressed as part of the Master Plan, Environmental Assessment and Transportation Management Plan. Some are beyond the scope of this effort.

General Comments

- Provide a list of studies the Navy and Air Force have previously prepared as back up information to the Master Plan and Environmental Assessment
- Provide a summary of all comments received from the public and review agencies.
- Improve coordination between Air Force, Navy (including the Naval Research Lab), and other agencies such as GSA, DHS, at St. E's and DDOT for planning (transportation) issues
- Develop more specific action list identifying specific steps in implementing the Joint Base Master Plan and Transportation Management Plan

- Provide clarification on relationship of currently planned projects such as NSMA and how they fit into the Master Plan and associated NEPA and TMP documents.

Visual / Aesthetic

- Define all maximum building heights by number of feet versus number of stories
- McChord Street gateway should extend all the way from Westover Avenue to the river creating one consistent improved gateway area
- Enhance the urban design graphic to show how the town center and historic district relate to each other
- Master Plan should provide a vision for moving away for the existing suburban development pattern currently found on base.
- North campus should be shown as a zone not illustrating specific design concepts and should incorporate the proposed South Capitol Street bridge alignment
- Make sure to clearly show the difference between existing and proposed facilities as well as buildings proposed for demolishing.
- Incorporate analysis of views from public places in the surrounding area such as Malcolm X Avenue.
- Suggest that the Commissary and BX parking lot be considered for a future development and locate parking "behind this buildings" to create a more urban center on base.
- Suggest the long term idea of putting the Commissary and BX down by the Firth-Sterling Gate.
- Include the airfield zone on the Existing Land Use Map.
- Views from the cemetery on St.E's needs to be protected
- Recommend including design guidelines for the combined base as part of the Master Plan

Historic / Environmental

- Some concern about the alternatives provided in the EA. The No Master Plan Alternatives seems like a no Action alternatives
- Recommend that the EA should incorporate the analysis of a population increase 25% over the current population
- Recommend that the combined base should align existing studies such as the Integrated Cultural Resources Management Plan (ICRMP) to be consistent.
- Ensure ongoing and future commitment to the historic review processes as part of this effort
- Treatment of areas within the historic district should reflect an appropriate look and feel related to the historic uses such as the airfield and airfield support facilities. There could be zones within the district that reflects specific character areas.

- Provide a map that depicts the historic resources on the base.

Traffic / Transportation

- Concerns were identified regarding the overall traffic flow related to the various projects planned in this part of DC including St Elizabeths, Poplar Point, and Barry Farm. In particular concerns were noted at Malcolm X Boulevard, Martin Luther King Avenue, South Capitol Street and Firth Sterling
- Ensure coordination of all data related to traffic and transportation issues between Joint Base and St Elizabeths
- Concerns noted about providing additional parking facilities on the Joint Base.
- Suggest including some narrative about water taxi options and water transportation as an alternative mode of transportation in the plan.
- Parking on base should include both those people who live there and work somewhere on base.
- Shared parking should be considered as part of the plan
- If feasible parking should be removed when possible to achieve the parking ratio goal
- Make sure to coordinate with the Blue Plains Water Treatment Plant since they will be undergoing construction upgrades that could impact traffic on I-295.
- Please include the Frederick Douglass Memorial Bridge as part of the Master Plan
- Consider extending the streetcar line further south as originally planned to better serve DIA.
- Provide an area measurement of tree canopy coverage as part of the master plan and EA.
- Concerns expressed about relocating the truck gate to the Firth Sterling location
- Consider implementing a bike share program would be implemented on the base
- TMP needs to identify an approach to achieving the 4 to 1 ratio.
- Consider allowing public access to the trail along the waterfront
- How will the Joint Base manage and enforce parking around the base
- Provide map that illustrates areas excluded from the parking count / ratio
- Provide illustration of existing and future employee projects and location of parking
- Carefully consider views into the base from the I-295 corridor as part of the Master Plan and Design Guidelines.

7.4 Agency Correspondence



DEPARTMENT OF THE NAVY
Naval Facilities Engineering Command Washington
Public Works Department Washington
1013 O Street SE, Bldg 166, Suite 100N
Washington Navy Yard, DC 20374

5090
April 28, 2010

Mr. David Malone
State Historic Preservation Officer
DC Office of Planning/Historic Preservation Office
1100 4th Street, SW
Suite E 650
Washington, D.C. 20024
Attention: Andrew Lewis

Dear Mr. Lewis:

SUBJECT: JOINT BASE ANACOSTIA-BOLLING MASTER PLAN

The Department of the Navy is preparing an environmental assessment (EA) for the Joint Base Anacostia-Bolling Master Plan for Naval Support Facility (NSF) Anacostia and Bolling Air Force Base (AFB) in the District of Columbia. NSF Anacostia and Bolling AFB are to become one physical and administrative joint base. The location of the installation is shown at enclosure 1. The EA is being prepared in compliance with the requirements of the National Environmental Policy Act (NEPA). This letter is being sent pursuant to Section 106 of the National Historic Preservation Act (NHPA).

The Joint Base Anacostia-Bolling Master Plan is needed in order to comply with a directive from the Department of Defense to draft a Joint Base Installation Master Plan as a result of the 2005 Base Realignment and Closure Act (BRAC) mandate to unify the installation. While the two facilities currently exist as separate installations, they are required to officially operate as one installation as of October 1, 2010.

The Joint Base Anacostia-Bolling Master plan is primarily a comprehensive land use plan and urban design framework to guide future development on the base over the next 10 years. It does not have a programmed schedule of projects (construction or demolition) associated with it nor does it come tied with a specific increase in base personnel, although growth is possible. It simply is a guiding policy document for those times in the future when a new facility may need to be designed, sited and built on the installation to meet mission needs. The Master Plan will provide guidance to base personnel responsible for finding an appropriate location for a facility and giving direction on how it should be designed to fit into the greater base context. The overall intent of the new Master Plan is to introduce a sense of cohesion, quality and unity between the two legacy installations based on smart and strategic land use. Under this Master Plan an increase in base development and density is possible through new and infill construction. It is expected any future identified projects would comply with NEPA and NHPA regulations.

Review of available documentation indicates there are National Register of Historic Places (NRHP) eligible architectural resources present at Bolling AFB in the form of a historic district. Four of the contributing buildings are also eligible for individual listing. Additionally, two buildings on NSF Anacostia may be NRHP eligible pending a report and official concurrence from the D.C. State Historic Preservation Office. The locations of these resources are shown at enclosure 2.

Five prehistoric sites have been identified on Bolling AFB, all of which were recorded prior to or during the construction of the new Bolling Field (present day Bolling AFB) in the 1930s; however, the reported locations of most of these sites are unconfirmed and they have not been thoroughly evaluated for NRHP eligibility through formal archaeological studies. Therefore, the exact location and condition of these sites have not been verified. A Phase II Archaeological Investigation of Site 51SW7 near the Bolling AFB and Bellevue Naval Housing Complex boundary was reported in December of 2009 and a final report is pending. The future identification of existing and unknown prehistoric sites remains a possibility given the installation's location in an area heavily used and favored by prehistoric people. There are no known archaeological resources on the NSF Anacostia side and it is unlikely such resources exist given the fact the majority of NSF Anacostia was constructed using man-placed fill prior to 1917.

Again, while the Master Plan is primarily a guiding policy document for future base growth, it is expected any future identified projects would comply with NEPA and NHPA regulations when the parameters of those projects are established and the impacts of the projects are measurable.

Please forward any comments or concerns you may have with respect to the proposed action to my point of contact Mr. Jeffrey Gardner at (202) 685-3064 or email at jeffrey.a.gardner2@navy.mil. Due to schedule constraints, we respectfully request your response within 30 calendar days of receiving this letter.

Sincerely,



RICHARD P. LAFRENIERE
Installation Environmental Program Manager
By direction of the Commanding Officer

Enclosures: 1. Regional Context Figure
2. Historic and Cultural Resources Figure

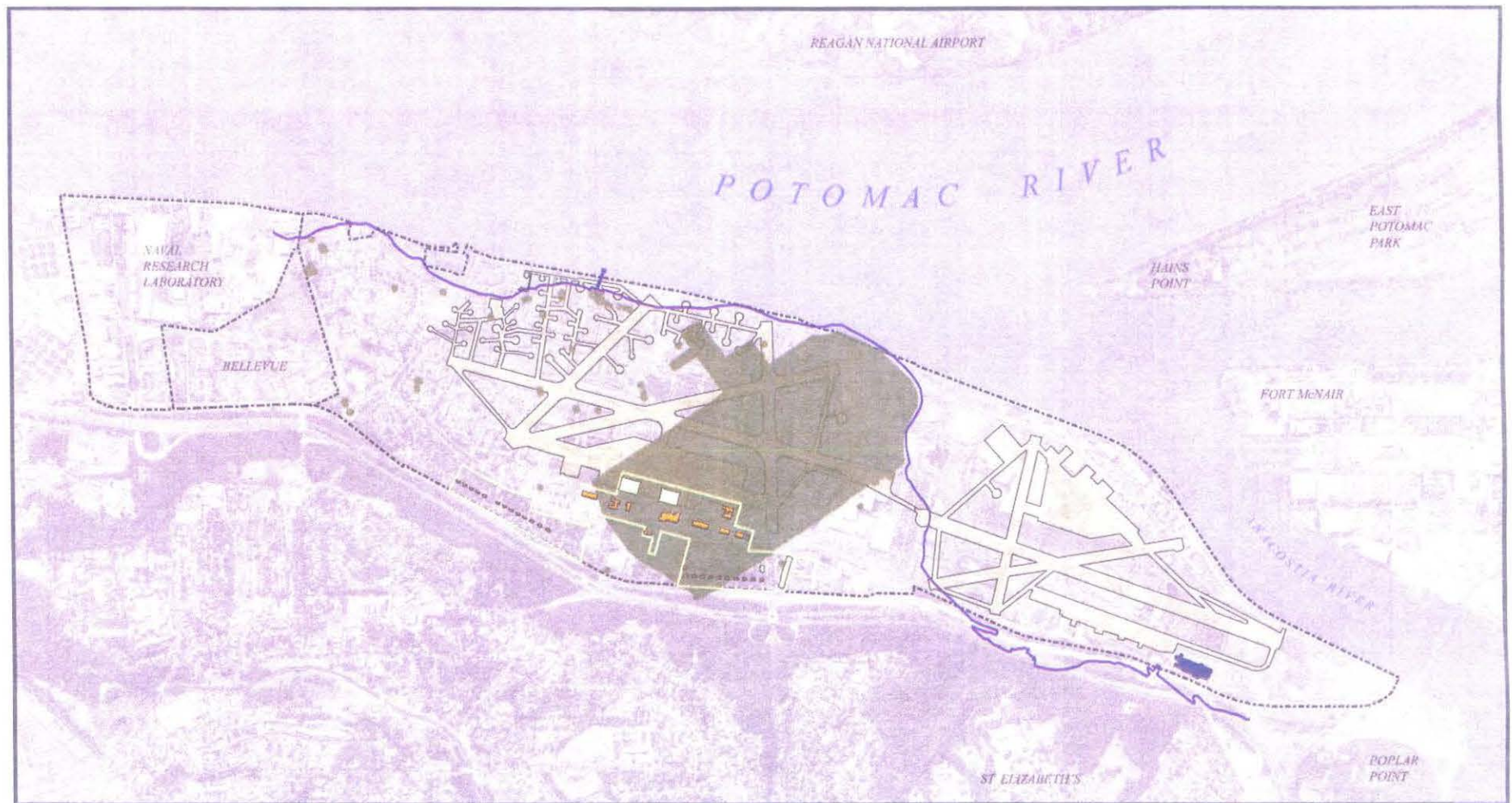
Please mail all comments to:

Mr. Jeffrey Gardner
C/o Rita Smith
Naval Support Facility Carderock
NAVFAC PWD Environmental
9500 MacArthur Blvd. Bldg 32, Fl-1, Rm 107
West Bethesda, Maryland 20817

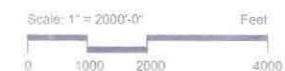


FIGURE 1 - REGIONAL CONTEXT

Joint Base Anacostia-Bolling



**FIGURE 2 - Historic and Cultural Resources
Anacostia - Bolling Joint Base Master Plan, Phase 2**



AECOM



DEPARTMENT OF THE NAVY

Naval Facilities Engineering Command Washington
Public Works Department Washington
1013 O Street SE, Bldg 166, Suite 100N
Washington Navy Yard, DC 20374

5090

April 28, 2010

Mr. Devin Ray
U.S. Fish and Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Dear Mr. Ray:

SUBJECT: JOINT BASE ANACOSTIA-BOLLING MASTER PLAN

The Department of the Navy is preparing an environmental assessment (EA) for the Joint Base Anacostia-Bolling Master Plan for Naval Support Facility (NSF) Anacostia and Bolling Air Force Base (AFB) in the District of Columbia. NSF Anacostia and Bolling AFB are to become one physical and administrative joint base. The location of the installation is shown at enclosure 1. The EA is being prepared in compliance with the requirements of the National Environmental Policy Act (NEPA).

The Joint Base Anacostia-Bolling Master Plan is needed in order to comply with a directive from the Department of Defense to draft a Joint Base Installation Master Plan as a result of the 2005 Base Realignment and Closure Act (BRAC) mandate to unify the installation. While the two facilities currently exist as separate installations, they are required to officially operate as one installation as of October 1, 2010.

The Joint Base Anacostia-Bolling Master Plan is primarily a comprehensive land use plan and urban design framework to guide future development on the base over the next 10 years. It does not have a programmed schedule of projects (construction or demolition) associated with it nor does it come tied with a specific increase in base personnel, although growth is possible. It simply is a guiding policy document for those times in the future when a new facility may need to be designed, sited and built on the installation to meet mission needs. The Master Plan will provide guidance to base personnel responsible for finding an appropriate location for a facility and giving direction on how it should be designed to fit into the greater base context. It is expected any future identified projects would comply with NEPA regulations.

Past land filling, construction of flood control structures along the rivers, and construction of buildings and pavement on the installation have resulted in the loss of most native vegetation and wildlife. Wildlife in the study area is largely limited to species commonly found along urban waterways, such as rats, sea gulls, house sparrows, starlings, and pigeons. Some use of the installation by native birds other than sea gulls is likely but limited by the lack of suitable habitat. Most trees and shrubs are the result of landscaping. According to recent

studies such as the Bolling AFB General Plan and October 2009 Naval Systems Management Activity (NSMA) EA there are no species protected under the Endangered Species Act (ESA) known to occur on the Joint Base. Shortnose sturgeon (*Acipenser brevirostrum*), listed as endangered, occurs in the Potomac River and may occur in the Anacostia River, which is adjacent to the installation. However, the proposed action would have no direct impact on the rivers, except to reduce stormwater runoff and indirectly improve the quality of water entering the rivers. Amphipods (*Stygobromus phraeticus*) may occur sporadically along the Anacostia and Potomac Rivers and up major tributaries, but none have been found on the Joint Base and are unlikely to occur given the fact the area is a floodplain and it is a disturbed area.

Again, while the Master Plan is primarily a guiding policy document for future base growth, it is expected any future identified projects would comply with applicable regulations when the parameters of those projects are established and the impacts of the projects are measurable.

Please forward any Fish and Wildlife Service comments or concerns with respect to the proposed action described in this letter including information on any listed, proposed, or candidate species that are known to occur in the vicinity of the project area and information on any critical habitat that may be present in the vicinity. Due to schedule constraints, we respectfully request your response within 30 calendar days of receiving this letter. If you have any questions or require additional information, my point of contact is Mr. Jeffrey Gardner at (202) 685-3064 or email at jeffrey.a.gardner2@navy.mil. Thank you in advance for your assistance.

Sincerely,



RICHARD P. LAFRENIERE

Installation Environmental Program Manager
By direction of the Commanding Officer

Enclosure: Regional Context Figure

Please mail all comments to:

Mr. Jeffrey Gardner
C/o Rita Smith
Naval Support Facility Carderock
NAVFAC PWD Environmental
9500 MacArthur Blvd. Bldg 32, Fl-1, Rm 107
West Bethesda, Maryland 20817



FIGURE 1 - REGIONAL CONTEXT
Joint Base Anacostia-Bolling

