FINAL

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

Five-Year Installation Development Plan Update at Joint Base Anacostia-Bolling, Washington, DC

Prepared for:

Department of the Air Force

May 2025

PEAX-007-57-UAF-1727349364

Letters or other written comments provided may be published in the Final Programmatic Environmental Assessment (EA). As required by law, substantive comments will be addressed in the Final EA and made available to the public. Any personal information provided will be kept confidential. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the names of the individuals making comments and their specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

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Final Programmatic Environmental Assessment

Five-Year Installation Development Plan Update at Joint Base Anacostia-Bolling, Washington, DC

Responsible Agency:	Department of the Air Force (DAF)
Cooperating Agency:	None
Designation:	Final Programmatic Environmental Assessment
UNIQUE ID:	PEAX-007-57-UAF-1727349364
Proposed Action:	Implement the five-year physical development plans as outlined in the Installation Development Plan.
Abstract:	The DAF 11th Wing has prepared this Programmatic Environmental Assessment pursuant to the National Environmental Policy Act of 1969, as amended by the Fiscal Responsibility Act of 2023, and the DAF Environmental Impact Analysis Process Regulations. This Programmatic Environmental Assessment analyzes the potential environmental effects of implementing the projects identified in the updated and approved Installation Development Plan at Joint Base Anacostia-Bolling (JBAB), Washington, DC, over a five-year period to support various missions. The Proposed Action includes ten separate projects located throughout JBAB, which include the construction of new facilities, infrastructure improvements (such as roads and utility lines), and demolition of obsolete facilities. The Proposed Action is needed to provide the facilities and infrastructure to meet the mission requirements of the 11th Wing and its tenant units. The Proposed Action would address deficiencies in existing facilities and infrastructure and provide the space to accommodate future missions planned on JBAB.
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The DAF developed this Environmental Assessment per its regulations that implement the National Environmental Policy Act as amended by the Fiscal Responsibility Act of 2023 at 32 Code of Federal Regulations (CFR) 989.

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EXECUTIVE SUMMARY

The Department of the Air Force (DAF) 11th Wing has prepared this Programmatic Environmental Assessment (EA) to evaluate the potential environmental effects of implementing the projects identified in the updated and approved Installation Development Plan (IDP) at the Joint Base Anacostia-Bolling (JBAB), Washington, DC, over a five-year period (Fiscal Year (FY) 2025–FY2029).

ES.1 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to support JBAB's future mission requirements as outlined in the updated and approved IDP. The overall purpose of the JBAB IDP is to ensure that management and development of the real property assets of the installation support the planning vision, mission readiness, and quality of life for installation residents and employees.

The Proposed Action is needed to provide the facilities and infrastructure to meet the mission requirements of the 11th Wing and its tenant units. Overall, the construction of new facilities, demolition of obsolete facilities, and infrastructure improvements (such as roads and utility lines) would address deficiencies in existing facilities and infrastructure and provide the space to accommodate future missions planned on JBAB. The construction of new facilities would assist in accommodating an expanding service mission and growing workforce at JBAB in support of the IDP's goal to, "Promote and Strengthen JBAB's Identity as an Urban Waterfront Military Community," and to support the consolidation of similar facilities and land uses. The demolition of aging infrastructure would provide space for new construction, compatible with the guidance and goals set forth by the National Capital Planning Commission (NCPC). The infrastructure improvements would modernize JBAB's aging electrical infrastructure and improve electrical reliability. The Proposed Action is also needed to increase vehicle and pedestrian capacity; to address increasing demand on mobility networks; and to create recreational trails to support JBAB's need for accessible, walkable development within the Housing and Community Support District.

ES.2 Proposed Action

The DAF 11th Wing proposes to implement projects identified in the updated and approved IDP at JBAB over a five-year period (FY2025–FY2029) to support various missions. The Proposed Action includes 10 separate projects located throughout JBAB. The 10 projects include the construction of new facilities, infrastructure improvements (such as roads and utility lines), and demolition of facilities. These 10 projects and their respective estimated construction timeframes are described below:

1. **Blanchard Barracks Demolition** (FY2025): Demolish the vacant Blanchard Barracks and three adjacent buildings due to environmental concerns, lack of accessibility, and lack of habitability.
2. **Defense Information System Agency (DISA) Facility** (FY2028–FY2029): Construct a facility to support DISA, including a main building, utility plant, gatehouse, and parking deck. This would consolidate the existing mission and workforce already at JBAB.
3. **National Capital Region (NCR) Center of Excellence** (FY2028–FY2029): Build a facility, and an associated parking garage, to consolidate 11th Wing and other DAF NCR-based missions. This would accommodate existing personnel and an anticipated 2,128 new employees.
4. **Electric Switch Station Reliability Improvements** (FY2026–FY2027): Modernize aging electrical infrastructure on JBAB to improve electrical reliability.
5. **Reversible Travel Lane on Defense Blvd.** (FY2026–FY2027): Reconfigure and widen Defense Boulevard on JBAB to add a third lane that would be reversible, bicycle lanes, and sidewalks. This would increase vehicle/pedestrian capacity during peak commuting times.

6. **Connection of Waterfront Trail to Bellevue Housing** (FY2026–FY2027): Create a recreational/multipurpose trail on JBAB, which would support JBAB's goal of accessible, walkable development.
7. **CSX Trail** (FY2026–2027): Repurpose the CSX right-of-way and easement land into a pedestrian and bicycle trail to promote accessible, walkable development and provide a connection between Bellevue Housing and the Charter School.
8. **Replacement Child Development Center (CDC)** (FY2028–FY2029): Construct a new CDC facility to replace the existing facility slated for demolition and support additional children and staff.
9. **Medical Squadron (MDS) Clinic** (FY2028–FY2029): Build a new medical facility for the 316th MDS to consolidate MDS medical, dental, administrative, and operations support functions in one location. This project would not increase personnel.
10. **South Gate & Visitor Center** (FY2028–FY2029): Replace the existing South Gate access control point facility, which is a dedicated entry point for visitors, and demolish seven existing installation houses to meet space and safety requirements. This project would better accommodate visitors, including drop-offs and pick-ups for the Charter School. This project would not increase personnel.

ES.3 Alternatives Considered

Alternatives were developed for analysis based on several baseline requirements. The DAF requires that they align with the military mission at JBAB and applicable Department of Defense (DoD) plans and criteria. DAF also used the following reasonable screening factors:

- The projects must be included within the JBAB five-year IDP.
- The projects must be compatible with the IDP District Plans regulating plans.
- The project sites should consolidate similar functions and organizations to maximize efficiencies.
- The project sites must meet DoD safety and antiterrorism requirements, including setbacks.
- The projects must take environmental constraints and requirements into consideration.
- The project sites should have existing access roadways and infrastructure to maximize efficiencies.

The DAF 11th Wing is considering a No Action Alternative and two action alternatives:

- **No Action Alternative**: Under the No Action Alternative, the proposed construction of the five-year IDP projects would not occur. Activities that occur in existing facilities on JBAB would continue to operate in unconsolidated, geographically separated facilities; security requirements necessary for compliance with DoD and DAF guidelines would not be met; aging facilities and infrastructure would continue to deteriorate and require extensive and costly upkeep; and inefficient workarounds to meet mission requirements would continue. New mission partners programmed for JBAB would not be accommodated by the existing installation facilities.
- **Alternative 1 — Implement IDP Five-Year Projects (Preferred Alternative)**: Under Alternative 1, the Proposed Action would be implemented. The locations of the 10 projects under Alternative 1 are described below:

1. **Blanchard Barracks Demolition**: The Blanchard Barracks and three other buildings that would be demolished under this project are located on approximately 20 acres within the Historic Bolling District.
2. **DISA Facility**: The facilities would be redeveloped within the same area as Project 1, following demolition. The proposed site is within the Historic Bolling District.
3. **NCR Center of Excellence**: The facilities would be constructed on a portion of Giesboro Park west of Chappie James Blvd. The proposed site is within the Sentinels of the Capital District.
4. **Electric Switch Station Reliability Improvements**: The proposed corridor for this project is within the Historic Anacostia District, Sentinels of the Capital District, and Historic Bolling District.
5. **Reversible Travel Lane on Defense Blvd.**: This project would occur on Defense Blvd. from Boundary Road to the Firth Sterling Gate. The portion of Defense Blvd. is within the Historic Anacostia District.
6. **Connection of Waterfront Trail to Bellevue Housing**: The new multi-use trail would connect the south end of the Waterfront Trail adjacent to the Slip Inn to the Bellevue housing area traveling through the Doolittle Park housing area. This project is located within the Housing and Community Support District.
7. **CSX Trail**: The repurposed CSX multi-use trail would connect the Air Force Honor Guard campus to the Bellevue housing area paralleling Duncan Avenue. The CSX right-of-way and easement is within the Historic Bolling District and Housing and Community Support District.
8. **Replacement CDC**: The replacement CDC would be constructed adjacent to the JBAB Charter School, on a green field site adjacent to Hickam Village. This site is within the Historic Bolling District.
9. **MDS Clinic**: The new 316th MDS Clinic facility would be constructed on McChord Street between Castle Avenue SW and Luke Avenue SW. This project is within the Historic Bolling District.
10. **South Gate & Visitor Center**: This project would replace the existing South Gate and up to seven existing houses in Westover Estates would be demolished to provide space to fit all the gate components. The project is within the Housing and Community Support District.

Several of the proposed projects are located within the 100-year or 500-year floodplain; therefore, a Finding of No Practicable Alternative (FONPA) and mitigation measures must be adopted under Alternative 1. Built facilities and any flood-susceptible utilities would comply with the standards and requirements set forth under Executive Order (EO) 11988 under United Facilities Criteria (UFC) 3-201-01 (2018).

- **Alternative 2 — Alternative Siting for IDP Five-Year Projects**: Under Alternative 2, the Proposed Action would be implemented; however, some of the projects would occur in different locations than Alternative 1, as described below:
  1. **Blanchard Barracks Demolition**: Same location as Alternative 1.
  2. **DISA Facility**: The new DISA facilities would be constructed on a portion of Giesboro Park west of Chappie James Blvd. The proposed site is within the Sentinels of the Capital District.

3. **NCR Center of Excellence**: The proposed site is within the Historic Bolling District, within the same area as Project 1. Four additional buildings on JBAB would be demolished to accommodate the redevelopment at this location.
4. **Electric Switch Station Reliability Improvements**: The proposed corridor for this project is similar to the Alternative 1 location but would be along a different route.
5. **Reversible Travel Lane on Defense Blvd.**: Same location as Alternative 1.
6. **Connection of Waterfront Trail to Bellevue Housing**: Same location as Alternative 1.
7. **CSX Trail**: Same location as Alternative 1.
8. **Replacement CDC**: The replacement CDC would be built on vacant land north of McChord Street, east of Duncan Avenue, and west of Westover Avenue. The JBAB Historic Chapel, which is located within the same parcel, would remain in place and would be avoided. This site is in the Historic Bolling District.
9. **MDS Clinic**: The 316th MDS Clinic functions would mostly remain in their existing locations. A one-story addition would be constructed on Building 17 and Building 1300 would be renovated. Building 3 would be vacated and its staff and operations would move to a new and renovated space, partially consolidating the MDS functions. This project is within the Historic Bolling District.
10. **South Gate & Visitor Center**: Same location as Alternative 1.

Similar to Alternative 1, several of the projects are located within the 100-year or 500-year floodplain; therefore, a FONPA and mitigation would be required under Alternative 2. Built facilities and any flood-susceptible utilities would comply with the standards and requirements set forth under EO 11988 and UFC 3-201-01 (2018).

ES.4 Summary of Environmental Resources Evaluated in the Environmental Assessment

The DAF EIAP implementing regulations [32 CFR Part 989] directs agencies to identify at an early stage the important environmental issues deserving analysis and to deemphasize issues with negligible, minimal, or nonexistent adverse effects, in order to narrow the scope of the environmental review, enhance efficiency, and produce concise environmental documents. For this EA, the following resource areas are evaluated in detail for potential significant effects: air quality, water resources, biological resources, cultural resources, infrastructure, noise, hazardous materials and waste, and transportation. Installation resiliency-related effects were analyzed and are briefly discussed in the air quality and water resources sections. The EA initially analyzed the potential environmental effects on geological resources, land use, public health and safety, and socioeconomics, and determined there would be minimal adverse effects to these resources. Therefore, they are only briefly addressed in the EA.

ES.5 Summary of Potential Environmental Consequences of the Alternatives

Table ES-1 summarizes the potential effects on the resource areas associated with the No Action Alternative and the two action alternatives analyzed in this EA.

ES.6 Public and Agency Engagement

JBAB land proposed for the five-year IDP projects includes areas within a floodplain; therefore, the Proposed Action is subject to the requirements and objectives of EO 11988, *Floodplain Management* (42 Federal Register 26951, 1977). The DAF contacted federal and state regulatory agencies with special expertise and published an early notice in *The Washington Times* that the Proposed Action would occur in a floodplain. The notice solicited public comment on the Proposed Action and practicable alternatives.

Comments received during the 30-day comment period, included in Appendix B, were considered for the Draft EA.

A Notice of Availability was published in *The Washington Times* announcing the availability of the Draft EA for a 30-day public review and comment. The DAF also coordinated or consulted with agencies regarding the Proposed Action. Agency and public comments received were considered in preparing the Final EA.

Table ES-1: Summary of Potential Effects on Resource Areas

Resource Area	No Action Alternative	Alternative 1: Implement IDP Five-Year Projects (Preferred Alternative)	Alternative 2: Alternative Siting for IDP Five-Year Projects
Air Quality	No change to existing air quality conditions. No significant effects.	Short-term, minor effects on air quality from demolition and construction activities. Long-term, minor effects from operations and vehicular travel from increased personnel. No significant effects.	Effects would be similar to Alternative 1, but slightly less, since slightly less criteria pollutant emissions would occur during construction. Intensity would still be the same (minor). No significant effects.
Water Resources	No change to existing water resources conditions. No significant effects.	Short-term, minor effects on groundwater, surface water, and floodplains from construction activities. Long-term, minor effects on groundwater, surface water, and floodplains from increased impervious surfaces. No effects on wetlands. No significant effects.	Effects would be similar to Alternative 1, but slightly less, since proposed ground disturbance and impervious surfaces would be slightly less. Intensity would still be the same (minor). No significant effects.
Biological Resources	No change to existing biological resources conditions. No significant effects.	Direct, minor effects on vegetation. Short-term, negligible wildlife effects. No long-term effects to wildlife habitat. No significant effects on threatened or endangered species, but monarch butterfly host plant milkweed could be affected under Project 6 and Project 8. The DAF coordinated with USFWS on the effects determination on federally protected species. No significant effects.	Effects would be similar to Alternative 1, but slightly less effects on monarch butterfly host plant milkweed; milkweed could be affected under Project 6. No significant effects.
Cultural Resources	No change to existing cultural resources conditions. No significant effects.	The DAF will consult with the DC SHPO on each individual project as sufficient information to inform consultation becomes available. DAF would first avoid, then minimize effects to historic resources. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, all projects would result in no significant effects.	The DAF will consult with the DC SHPO on each individual project as sufficient information to inform consultation becomes available. DAF would first avoid, then minimize effects to historic resources. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, all projects would result in no significant effects.

Resource Area	No Action Alternative	Alternative 1: Implement IDP Five-Year Projects (Preferred Alternative)	Alternative 2: Alternative Siting for IDP Five-Year Projects
Infrastructure	No change to existing infrastructure conditions. No significant effects.	Short-term, minor effects to utility infrastructure and services at JBAB during construction. Long-term, minor, adverse effects due to increased demand on infrastructure. Long-term, beneficial effects on electrical reliability at JBAB. No significant effects.	Effects would be similar to Alternative 1. No significant effects.
Noise	No change to existing noise levels. No significant effects.	Short-term, minor effects from construction activities. Long-term, minor effects from increase in traffic. Noise levels would not be uncommon within the existing environment. No significant effects.	Effects would be similar to Alternative 1. No significant effects.
Hazardous Materials and Waste	No change to existing conditions. No significant effects.	Short-term, minor, adverse effects during demolition and construction. Long-term, negligible, beneficial effects from reduced amounts of hazardous materials. No significant effects.	Effects would be similar to Alternative 1. No significant effects.
Transportation	No changes to the transportation network from the Proposed Action. Transportation effects would occur within the region due to external planned developments and background growth. Adverse long-term traffic effects would occur from five planned developments external to the JBAB installation.	Minimal effects on the pedestrian, bicycle, and transit networks. Long-term, adverse effects on traffic due to additional volume of vehicles. Three intersections would require mitigation to offset anticipated traffic effects. With mitigation, no significant effects.	Minimal effects on the pedestrian, bicycle, and transit networks. Long-term, adverse effects on traffic due to additional volume of vehicles. Three intersections would require mitigation to offset anticipated traffic effects. With mitigation, no significant effects.

Key: AFB = Air Force Base; DAF = Department of the Air Force; DC SHPO = District of Columbia State Historic Preservation Office; IDP = Installation Development Plan; JBAB = Joint Base Anacostia-Bolling; NRHP = National Register of Historical Places; USFWS = U.S. Fish and Wildlife Service.

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Glossary of Abbreviations and Acronyms

Acronym	Definition
ACAM	Air Conformity Applicability Model
ACM	asbestos-containing materials
ADA	Americans with Disabilities Act
AFB	Air Force Base
AFFF	aqueous film-forming foam
APE	area of potential effect
ART	Anacostia Riverwalk Trail
AT	antiterrorism
ATR	automatic traffic recorders
BGEPA	Bald and Golden Eagle Protection Act of 1940
BMPs	best management practices
CDC	Child Development Center
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
C.F.R.	Code of Federal Regulations
CT	census tract
CTR	Comprehensive Transportation Review
DAF	Department of the Air Force
DAFI	Department of the Air Force Instruction
dB	decibel
dBA	A-weighted decibels
DC	District of Columbia

Acronym	Definition
DCA	Ronald Reagan Washington National Airport
DDOT	District Department of Transportation
DISA	Defense Information System Agency
DNL	Day-Night Average Sound Level
DoD	United States Department of Defense
DoDI	Department of Defense Instruction
DOEE	Department of Energy and Environment
DTM	Directive-type Memorandum
EA	Environmental Assessment
EB	Eastbound
EESOH-MIS	Enterprise Environmental, Safety, and Occupational Health Management Information System
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact

Acronym	Definition
FRMS	Flood Risk Management System
FTA	Fire Training Area
FY	Fiscal Year
GHGs	greenhouse gases
HAP	hazardous air pollutant
HCM	Highway Capacity Manual
I-	Interstate
IDP	Installation Development Plan
ICRMP	Integrated Cultural Resources Management Plan
IFS	Installation Facility Standard
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Consultation
JBAB	Joint Base Anacostia-Bolling
LBP	lead-based paint
Leq	equivalent sound level
Lmax	maximum A-weighted sound level
LOS	level of service
MBTA	Migratory Bird Treaty Act of 1918
LVIS	large vehicle inspection station
MDS	Medical Squadron
MMRP	Military Munitions Response Program
MTA	Maryland Transit Administration
mton/yr	metric tons per year
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards

Acronym	Definition
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Systems Command
NB	Northbound
NCPC	National Capital Planning Commission
NCR	National Capital Region
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NLEB	northern long-eared bat
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRL	Naval Research Laboratory
O_3	ozone
PCBs	polychlorinated biphenyls
PEPCO	Potomac Electric Power Company
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonic acid
PFBS	perfluorobutane sulfonic acid
PFHxS	perfluorohexanesulfonic acid
PFNA	perfluorononanoic acid
$PM_{2.5}$	fine particulate matter less than or equal to 2.5 micrometers in diameter

Acronym	Definition
PM_{10}	suspended particulate matter less than or equal to 10 micrometers in diameter
POL	petroleum, oil, and lubricants
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
SB	Southbound
SF	square feet
SGCN	species of greatest conservation need
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SOP	Standard Operating Procedure

Acronym	Definition
THPO	Tribal Historic Preservation Office
tpy	tons per year
UFC	United Facilities Criteria
U.S.	United States
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
v/c	volume to capacity
VOCs	volatile organic compounds
WMATA	Washington Metropolitan Area Transit Authority

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1 Purpose of and Need for the Proposed Action

1.1 Introduction

The Department of the Air Force (DAF) 11th Wing at Joint Base Anacostia-Bolling (JBAB), Washington, DC, identified construction, infrastructure, and demolition projects during its 2023 update of their Installation Development Plan (IDP) and proposes to implement the updates over a five-year period (fiscal year [FY] 2025–FY 2029).

The DAF has prepared this Programmatic Environmental Assessment (EA) to evaluate the potential environmental effects of this Proposed Action in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [U.S.C.] 4321 et seq.), as amended by the Fiscal Responsibility Act of 2023; the DAF Environmental Impact Analysis Process (EIAP) Regulations at 32 C.F.R. Part 989; and Department of the Air Force Instruction (DAFI) 32-1015, *Integrated Installation Planning* (Secretary of the Air Force, 2025). Chapter 3 and Appendix A further detail the relevant federal and state laws, statutes, regulations, orders, and policies applicable to this EA.

Programmatic NEPA Analysis

Programmatic NEPA analyses assess the environmental effects of a policy, program, plan, or group of related actions. An agency may rely on the analysis of the programmatic environmental document in subsequent NEPA analyses that are tiered to the programmatic level analysis (e.g., a site- or project-specific documentation) thereby reducing paperwork and delay of subsequent proposals. (Public Law 118-5, DAFI 32-1015).

The information presented in this document will serve as the basis for deciding whether the Proposed Action would result in a significant effect on the human environment, requiring the preparation of an Environmental Impact Statement (EIS), or whether no significant effects would occur, in which case a Finding of No Significant Impact (FONSI) would be appropriate. If the execution of the Proposed Action would involve construction in a floodplain, under Executive Order (EO) 11988, *Floodplain Management* (42 Federal Register 26951, 1977), the DAF would prepare a Finding of No Practicable Alternative (FONPA) in conjunction with the FONSI, if warranted.

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, a significant portion of JBAB, including land proposed for the five-year IDP projects, is within the 100-year floodplain and 500-year floodplain (FEMA, 2010a; FEMA, 2010b). EO 11988 requires federal agencies to avoid, to the extent possible, the occupancy and modification of floodplains and to avoid floodplain development wherever there is a practicable alternative. Per UFC 3-201-01 (2018), when mission needs require siting a building within or partially within a flood hazard area, the project specific Basis for Flood Risk Design should be obtained to determine the Design Flood Elevation required.

In 1944, an earthen levee and concrete floodwall were constructed along JBAB's shoreline at a height of 12 feet above mean sea level to provide flood control (NCPC, 2008). However, sections of the floodwall and the concrete levee wall (called the Flood Risk Management System [FRMS]) have deteriorated such that flood control is impaired, resulting in the current floodplain status on JBAB. An EIS is underway to study the FRMS on the installation. If the DAF selects an alternative from the EIS that would include repairs to the FRMS/levee to reinstate flood control to JBAB, the FRMS would likely be recertified by the U.S. Army Corps of Engineers (USACE). However, because the FRMS/levee repairs have not been completed, flooding is a concern at JBAB. Accordingly, the DAF would prepare a FONPA with a FONSI for this Proposed Action, if found appropriate.

1.2 Background

The IDP for JBAB is a critical master plan and comprehensive document mandated by Department of Defense (DoD) policy (Department of Defense Instruction [DoDI] 4165.70, *Real Property Management* and United Facilities Criteria [UFC] 2-100-01, *Installation Master Planning*) and DAF policy (DAFI 32-1015). The IDP encompasses a series of independent documents, including an IDP Framework, Installation Facility Standards (IFS), District Plans for each installation district, various component plans, and an execution plan. The IDP outlines JBAB's Planning Vision, which establishes principles for optimal long-term development, defines goals and objectives guiding development in support of ongoing missions, identifies potential development opportunities, quantifies planning constraints, assesses development capacity, and evaluates the sustainability of the installation's growth.

The National Capital Planning Commission (NCPC), an independent executive agency charged with oversight of the development of federal property within the national capital region, reviewed and provided input to the JBAB IDP. NCPC approved the IDP on February 3, 2022, and the DAF finalized the IDP in February 2022.

Installation Development Plan (IDP)

The IDP serves as a comprehensive planning document, offering long-term guidance for development decisions. It plays a pivotal role in helping the installation meet its objectives related to capital facilities, land use, infrastructure support, sustainability, mission expansion, and modernization. The IDP takes shape through a collaborative process involving key stakeholders, decision-makers, and leadership. It serves as the foundation for inputting planning data and actions into the DAF Civil Engineer Center Comprehensive Planning Platform, the primary planning tool for DAF installation planners.

1.3 Location

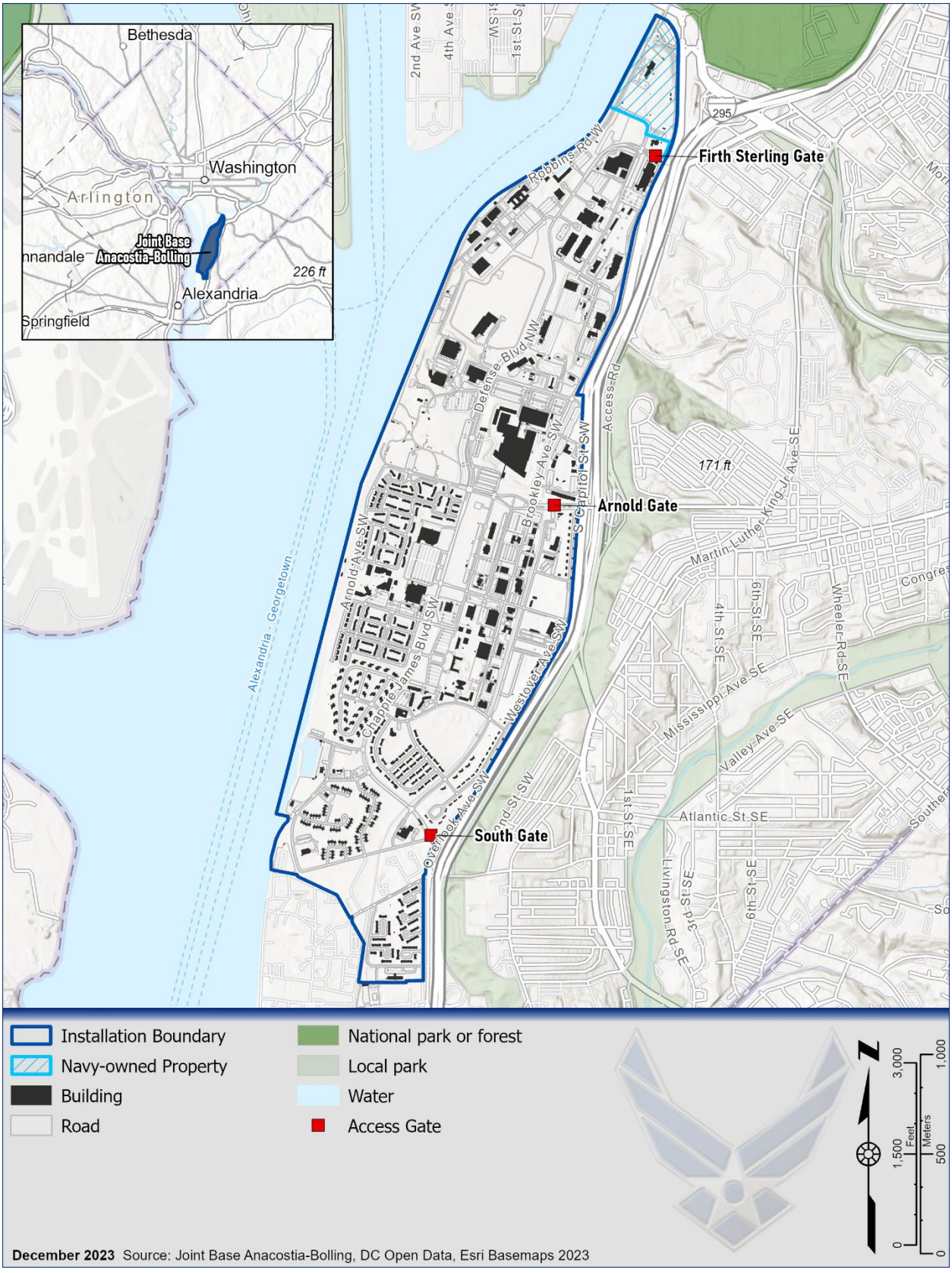
JBAB occupies 966 acres of land in southwest Washington, DC; DAF owns 934 acres of this land (see Figure 1-1). JBAB was first established as a joint installation under Navy authority in 2010. The DAF became the responsible lead service under the 11th Wing in 2020. The installation is the center of DAF and Navy ceremonial support, among other missions performed by the more than 70 military and federal mission partners on the installation. JBAB is bounded by the Anacostia River and the Potomac River to the west, South Capitol Street and Interstate 295 to the east, Poplar Point and the Frederick Douglass Memorial Bridge to the north, and the Naval Research Laboratory to the south. The Navy retained ownership of the northernmost portion of JBAB, as shown in Figure 1-1, after the service lead transfer in 2020.

1.4 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to implement the five-year physical development plans to support JBAB's future mission requirements as outlined in the IDP. The overall purpose of the JBAB IDP is to ensure that management and development of the real property assets of the installation support the planning vision, mission readiness, and quality of life for installation residents and employees.

The need for the Proposed Action is to provide the facilities and infrastructure to meet the mission requirements of the 11th Wing and its tenant units. Overall, the construction of new facilities, demolition of obsolete facilities, and infrastructure improvements (such as roads and utility lines) would address deficiencies in existing facilities and infrastructure and provide the space to accommodate future missions planned on JBAB. More specifically, the construction of new facilities would assist in accommodating an expanding service mission and growing workforce at JBAB in support of the IDP's goal to "Promote and Strengthen JBAB's Identity as an Urban Waterfront Military Community" and to support the consolidation of similar facilities and land uses.

Figure 1-1: Location of Joint Base Anacostia-Bolling and Access Gates



The demolition of aging infrastructure would provide space for new construction compatible with the guidance and goals set forth by NCPC. The infrastructure improvements would modernize aging electrical infrastructure and improve electrical reliability. The Proposed Action is also needed to increase vehicle and pedestrian capacity; to address increasing demand on mobility networks; and to create recreational trails to support JBAB's need for accessible, walkable development within the Housing and Community Support District.

1.5 Public, Agency, and Governmental Engagement

1.5.1 Public and Agency Engagement

Public engagement, including meaningful engagement with communities, is a critical part of the NEPA process. Public engagement aids in the development of the scope of issues addressed in an EA, identification of important and unimportant issues related to a Proposed Action, and in making better informed decisions. Per the requirements of the Intergovernmental Cooperation Act of 1968 (42 U.S.C. 4231(a)) and EO 12372, *Intergovernmental Review of Federal Programs* (47 Federal Register 30959, 1982), federal, state, and local agencies with jurisdiction that could be affected by the Proposed Action were notified during the development of this EA.

As necessary, the DAF consulted with agencies regarding the Proposed Action and EA. Such agency consultations included, but are not limited to, the following: District of Columbia State Historic Preservation Office (DC SHPO), District Department of Energy and Environment (DOEE), NCPC, FEMA, District Department of Transportation (DDOT), U.S. General Services Administration, and U.S. Fish and Wildlife Service (USFWS). Appendix B contains the list of agencies consulted during this environmental review process and copies of correspondence.

JBAB land proposed for the IDP projects includes areas within a floodplain; therefore, the Proposed Action is subject to the requirements and objectives of EO 11988. The DAF published an early notice in *The Washington Times* that the Proposed Action would occur in a floodplain. The notice solicited public comment on the Proposed Action and practicable alternatives. Federal and state regulatory agencies with special expertise were also contacted. Comments received during the 30-day comment period, included in Appendix B, were considered for the Draft EA.

The DAF published a Notice of Availability (NOA) of the Draft EA in *The Washington Times* on February 28 and March 3, 2025. The NOA invited the public to review and comment on the Draft EA and FONSI/FONPA, which was available for review online for 30 days. Comments received during this time, included in Appendix B, were considered for the Final EA.

1.5.2 Governmental Engagement and Tribal Consultations

The purpose of governmental engagement is to identify the potentially affected federal, state, tribal, and local government, invite them to serve as cooperating agencies, as appropriate, and ensure that participating agencies have opportunities to engage in the environmental review process, as appropriate. The National Historic Preservation Act (NHPA) directs federal agencies to coordinate and consult with Native American tribal governments whose interests might be directly and substantially affected by activities on federally administered lands (Section 101(d)(6)(B) of the NHPA). Consistent with the NHPA; EO 13175, *Consultation and Coordination with Indian Tribal Governments* (65 Federal Register 67249, 2000), DoDI 4710.02, *DoD Interactions with Federally Recognized Tribes*; and Department of the Air Force Instruction 90-2002, *Interactions with Federally Recognized Tribes*, federally recognized tribes that are historically affiliated with the JBAB geographic region were invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to

the tribes. The tribal consultation process is distinct from NEPA consultation or the interagency coordination process, and it requires separate notification to all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The JBAB point of contact for Native American tribes is the Installation Commander. The Installation Tribal Liaison Officer assists the Installation Commander as coordinator for tribal relations. The Native American tribal governments, with which the DAF consulted regarding these actions, are listed in Appendix B.

1.6 Decision to Be Made

The EA evaluates whether the Proposed Action would result in significant effects to the human environment. If significant effects are identified, JBAB would undertake mitigation to reduce adverse effects to below the level of significance, undertake the preparation of an EIS addressing the Proposed Action, or abandon the Proposed Action.

This EA is a planning and decision-making tool that will be used to guide JBAB in implementing the Proposed Action in a manner consistent with DAF standards for environmental stewardship.

2 Description of the Proposed Action and Alternatives

2.1 Proposed Action

The DAF, 11th Wing proposes to implement projects identified in the approved installation development and district plans over a five-year period to support various missions, which include construction of new facilities, infrastructure improvements, and demolition of obsolete facilities. The Proposed Action includes 10 separate projects, which are summarized in Table 2-1. The proposed locations for each specific project are not identified below but are identified within the two action alternatives (see Sections 2.3.2 and 2.3.3).

Table 2-1: Proposed Action Description

Project Number	Project Name	Estimated Construction Timeframe	Description
1	Blanchard Barracks Demolition	FY2025	This project is to demolish the Blanchard Barracks and three adjacent buildings (Buildings 3618, 3621, and 1301). In total, the demolition would be approximately 309,128 square feet (SF) over 20 acres, covering four buildings. Blanchard Barracks, first built in the 1970s, contains environmental concerns such as asbestos-containing materials (ACM), mold, and lead-based paint that make renovation of the building prohibitive. In addition, the barracks do not meet Americans with Disabilities Act (ADA) guidelines for accessibility. The barracks are not habitable and are currently vacant. This demolition would be compatible with the guidance and goals set forth by NCPC.
2	Defense Information System Agency (DISA) Facility	FY2028–FY2029	Under this project, a facility to support a mission partner, DISA, would be constructed. The facility would be composed of a 5-story main building (with a footprint of 132,034 SF), a central utility plant/service building (8,100 SF), a gatehouse (1,400 SF), and a 3-story parking deck (with a footprint of 145,722 SF). This project would consolidate the existing mission and workforce at JBAB. The new facility would accommodate the existing approximately 1,400 DISA personnel on JBAB. This project would not result in an increase of personnel or parking for DISA; parking conditions would be consistent with a parking plan developed in coordination with NCPC.
3	National Capital Region (NCR) Center of Excellence	FY2028–FY2029	This project includes the construction of a new, 3-story facility (with a footprint of 155,077 SF) to consolidate 11th Wing headquarter missions and other DAF NCR-based missions. The building would provide space to accommodate the existing 643 personnel on JBAB and an anticipated 2,128 new employees from elsewhere in the NCR. An associated 3-story parking garage with a footprint of 134,173 SF would be constructed.
4	Electric Switch Station Reliability Improvements	FY2026–FY2027	This project would modernize aging electrical infrastructure on JBAB, which would improve electrical reliability on the installation. A new electrical substation would replace some or all components of two electrical switch stations and create a new tie line between the two switch stations.

Project Number	Project Name	Estimated Construction Timeframe	Description
5	Reversible Travel Lane on Defense Blvd.	FY2026–FY2027	This project would reconfigure and widen Defense Blvd. from Boundary Road to the Firth Sterling Gate to add a third lane that would be reversible. The project would also add bicycle lanes and sidewalks on both sides. The combination of bicycle lanes, sidewalks, and the third lane would increase vehicle/pedestrian capacity during peak commuting times and help address increasing demand on mobility networks on JBAB. Dynamic lane signs would be installed over the roadway to guide drivers with indicators when lanes are open or closed during peak traffic hours.
6	Connection of Waterfront Trail to Bellevue Housing	FY2026–FY2027	This project would create a recreational/multipurpose trail connecting Slip Inn to Deck Court and CSX rail line. This would support JBAB's goal of accessible, walkable development. The trail would help connect the housing and community support district with the existing waterfront trail and the proposed CSX trail, creating a continuous walking and bicycling route throughout JBAB.
7	CSX Trail	FY2026–FY2027	Under this project, the abandoned CSX tracks along CSX-owned right-of-way and DAF -owned right-of-way with a perpetual CSX easement would be repurposed to a pedestrian and bicycle trail. The proposed north-south multi-use trail would promote accessible, walkable development within the installation and create additional recreational opportunities. This trail would also provide a safe walking connection between the Bellevue Housing area and the Charter School.
8	Replacement Child Development Center (CDC)	FY2028–FY2029	There is an existing CDC facility in Building 413 within the Navy-owned portion of JBAB. Future uses of this property by the Navy might necessitate relocating the CDC. This project would construct a new CDC facility to replace the facility slated for demolition. The new facility would be a 1-story 30,000-SF structure designed to meet UFC space planning criteria. This facility would support approximately 320 children and 110 staff members at maximum capacity, which is an increase over the 260 children and 88 staff members in the existing CDC.
9	Medical Squadron (MDS) Clinic	FY2028–FY2029	This project proposes a new medical facility for the 316th MDS. The existing medical facilities on JBAB are fragmented, in poor condition, and do not have adequate space to accommodate their mission. Under this proposed project, a new, 3-story facility with a 29,000-SF footprint would be built. This project would consolidate all MDS medical, dental, administrative, and operations support functions of the squadron in one location with adequate space to meet their mission and comply with DoD Defense Health Agency criteria. The space currently occupied by the MDS would be vacated (Building 3) or demolished (Building 1300 and Building 17). There would not be an increase in personnel at JBAB anticipated with this project.

Project Number	Project Name	Estimated Construction Timeframe	Description
10	South Gate & Visitor Center	FY2028–FY2029	This project would replace the current South Gate access control point facility, which is aging and does not meet current UFC 04-022-01 (*Entry Control Facilities Access Control Points*) requirements for safety and antiterrorism (AT) protection. The South Gate is the dedicated entry point for visitors, and currently provides two inbound lanes with an adjacent two-bay vehicle inspection station facility, and a turnaround for vehicles directed to the adjacent Visitor Center. The current Visitor Center is too small to handle the existing demand at the installation. The South Gate would be reconfigured to better accommodate visitor access, including drop-offs and pick-ups serving the Charter School, and a modern Visitor Center would be constructed to better accommodate the mission. The proposed new gate and roadway reconfiguration would bring the South Gate into compliance with UFC requirements, better facilitate visitor access, and create a school drop-off/pick-up area. The proposed South Gate and Visitor Center project would require the demolition of seven existing installation houses located on Westover Avenue. The South Gate and Visitor Center upgrade would not result in an increase in personnel.

The Proposed Action projects would occur over the five-year period FY2025–2029. The construction schedule for each project would vary within this timeframe, depending on the timing of the design schedule, funding, and other coordination requirements. Estimated staging of the projects over the five-year period are shown in Table 2-1. The Proposed Action would result in an increase of 2,150 personnel across the five new facilities at JBAB. This includes 2,128 new employees at the NCR Center of Excellence facility and 22 staff members at the proposed CDC. There would be no increases in personnel at the MDS Clinic or the South Gate & Visitor Center. The majority of the employees would reside off the installation and would commute to JBAB. Up to 60 additional children would be supported by Project 8 (Replacement CDC). These 60 additional spots could be filled by JBAB or federal employees that reside either on or off the installation.

2.2 Selection Standards and Criteria

NEPA and DAF's NEPA Implementing Regulations mandate the consideration of reasonable alternatives. "Reasonable alternatives" could also be used to meet the purpose of and need for a Proposed Action. Per the DAF EIAP Regulations at 32 C.F.R. Part 989, selection standards are used to identify reasonable alternatives.

In addition to supporting the purpose of and need for the action, a reasonable alternative must meet the following baseline requirements:

- Be compatible with the existing, ongoing military mission and activities at JBAB.
- Meet anticipated future military mission and activities at JBAB.
- Be compatible with existing infrastructure and development at JBAB and its vicinity.

- Meet applicable DoD installation master planning criteria, consistent with UFC 2-100-01, *Installation Master Planning* (revision 08 April 2022).
- Align with the DAF *Construction Growth Offset Policy* (20 May 2022), including requirements that all new construction growth on an DAF installation be offset by an equivalent building square footage demolished or placed into closed operational status.
- Align with the 2011 DAF Civil Engineering Strategic Plan.
- Meet current DoD facility design requirements in accordance with UFC 1-200-01, *DoD Building Code* (01 September 2022), and DAF requirements for functional space, consistent with DAF Manual 32-1084, *Standard Facility Requirements* (04 November 2023).
- Meet applicable DoD antiterrorism (AT) criteria, consistent with UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*, and the DAF Installation Force Protection Guide.
- Conform to the JBAB Installation Facilities Standards and JBAB Installation Design Guidelines, which ensure consistent and coherent architectural character throughout JBAB.

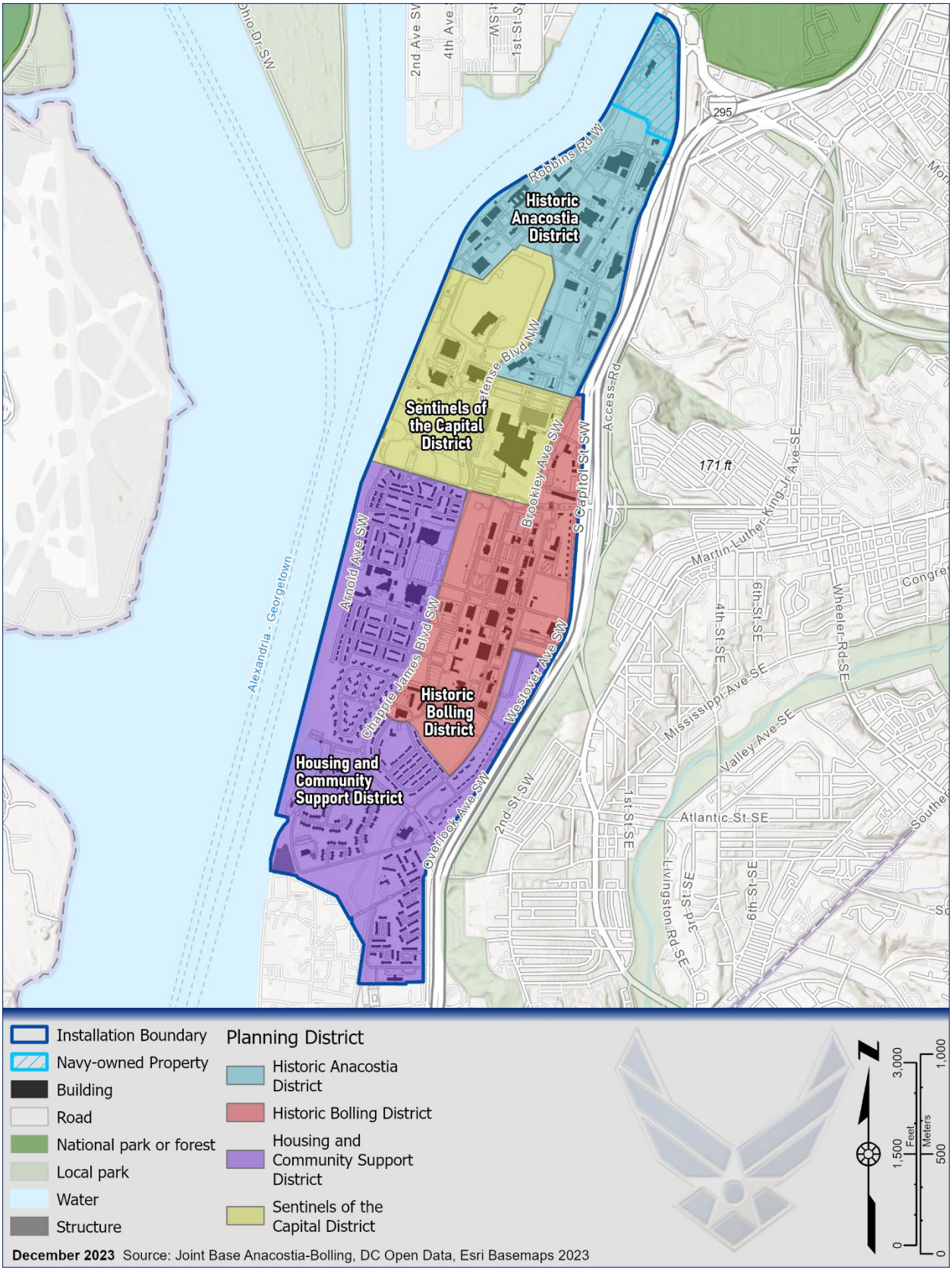
In selecting possible site alternative locations for the construction of the proposed five-year IDP projects at JBAB, the DAF evaluated sites that met the following selection standards:

- Selection Standard A: The projects must be included within the JBAB five-year IDP.
- Selection Standard B: The projects must be compatible with the IDP District Plans regulating plans.
- Selection Standard C: The project sites should consolidate similar functions and organizations to maximize efficiencies.
- Selection Standard D: The project sites must meet DoD safety and AT requirements, including setbacks.
- Selection Standard E: The projects must take environmental constraints and requirements into consideration.
- Selection Standard F: The project sites should have existing access roadways and infrastructure to maximize efficiencies.

Installation planners review functional and spatial relationship concepts, current and planned facility locations, environmental conditions, and the existing installation setting to determine site availability and viability.

JBAB has been divided into four planning districts (Figure 2-1). The Historic Anacostia District, named because it occupies the area of the former Naval Support Facility Anacostia, is at the northernmost end of the installation and is composed of largely industrial and administrative land uses, although there are fragmented uses throughout. The Sentinels of the Capital District have a mix of mission-focused and open space land uses. The Historic Bolling District, named in reference to its location at the heart of the former Bolling Air Force Base (AFB), serves as the town center of JBAB with a mix of mission and community support functions. The Housing and Community Support District in the southernmost area of JBAB is predominantly family housing, and includes the commissary, base exchange, and other community support facilities.

Figure 2-1: Joint Base Anacostia-Bolling Planning Districts



2.2.1 Screening of the Action Alternatives

The DAF initially considered if the following potential alternatives achieved the purpose of and need for the Proposed Action:

- Alternative 1: Implement IDP Five-Year Projects (Preferred Alternative)
- Alternative 2: Alternative Siting for IDP Five-Year Projects
- Alternative 3: Reconfigure Arnold Gate to Exit Only
- Alternative 4: Implement IDP Five-Year Projects Without Transportation Improvements

The selection standards described in Section 2.2 were applied to these four alternatives to determine which alternative(s) could serve the purpose of and need for the Proposed Action (Table 2-2). Those standards that were not met by a particular alternative state "No" highlighted in red. Additional information about the alternatives carried forward for analysis in provided in Section 2.3.

Table 2-2: Screening of the Action Alternatives

Alternative Names	Selection Standard A: Within Five-year IDP	Selection Standard B: Compatible with IDP District Plans	Selection Standard C: Consolidate Functions to Maximize Efficiencies	Selection Standard D: Meet DoD Safety and AT Requirements	Selection Standard E: Considers Environmental Constraints	Selection Standard F: Existing Infrastructure
Alternative 1: Implement IDP Five-Year Projects	Yes	Yes	Yes	Yes	Yes	Yes
Alternative 2: Alternative Siting for IDP Five-Year Projects	Yes	Yes	Yes	Yes	Yes	Yes
Alternative 3: Reconfigure Arnold Gate to Exit Only	No	Yes	No	Yes	No	Yes
Alternative 4: Implement IDP District Five-Year Projects Without Transportation Improvements	Yes	No	Yes	No	Yes	Yes

2.3 Alternatives Carried Forward for Analysis

The NEPA process is intended to help agencies make informed decisions, including a consideration of a reasonable range of alternatives.

As shown in Table 2-2, Alternatives 3 and 4 did not meet all of the selection criteria. Alternative 3 would involve reconfiguring Arnold Gate at JBAB to make it an exit only; however, this alternative site would not consolidate similar functions and organizations to maximize efficiencies and has environmental constraints. Alternative 4 would involve implementing the proposed IDP projects without the

transportation improvements; however, this alternative would not be compatible with IDP District Plans and would not meet DoD safety and AT requirements.

Among the reasonable range of alternatives evaluated in this EA is a No Action Alternative, which is required per the DAF EIAP Regulations at 32 C.F.R. 989.8(d). The No Action Alternative will analyze effects of not undertaking the Proposed Action and will serve to establish a comparative baseline for analysis.

Two action alternatives—Alternative 1: *Implement IDP Five-Year Projects* (project locations shown in Figure 2-2) and Alternative 2: *Alternative Siting for IDP Five-Year Projects* (project locations shown in Figure 2-3)—were found to meet the purpose of and need for the Proposed Action and to satisfy the selection standards. These two action alternatives, and a No Action Alternative, are carried forward for detailed analysis in this EA. As shown in Table 2-2, Alternatives 3 and 4 did not meet all of the selection criteria. These alternatives considered, but eliminated from further consideration, are discussed in Section 2.4.

2.3.1 No Action Alternative

Under the No Action Alternative, the proposed construction of the five-year IDP projects would not occur. Activities that occur in existing facilities on JBAB would continue to operate in unconsolidated, geographically separated facilities; security requirements necessary for compliance with DoD and DAF guidelines would not be met; aging facilities and infrastructure would continue to deteriorate and require extensive and costly upkeep; and inefficient workarounds to meet mission requirements would continue. New mission partners programmed for JBAB would not be accommodated by the existing installation facilities. The No Action Alternative would not meet the purpose of and need for the Proposed Action. However, it is carried forward for further analysis, consistent with DAF regulations, to provide a baseline against which the effects of the Proposed Action and alternatives can be assessed.

2.3.2 Alternative 1: Implement IDP Five-Year Projects (Preferred Alternative)

Under Alternative 1 (the Preferred Alternative), JBAB would implement the 10 projects listed and described in the Proposed Action (Section 2.1).

The locations of the 10 proposed projects are described in Table 2-3 below. These project locations are depicted in Figure 2-2 and Figure 2-3.

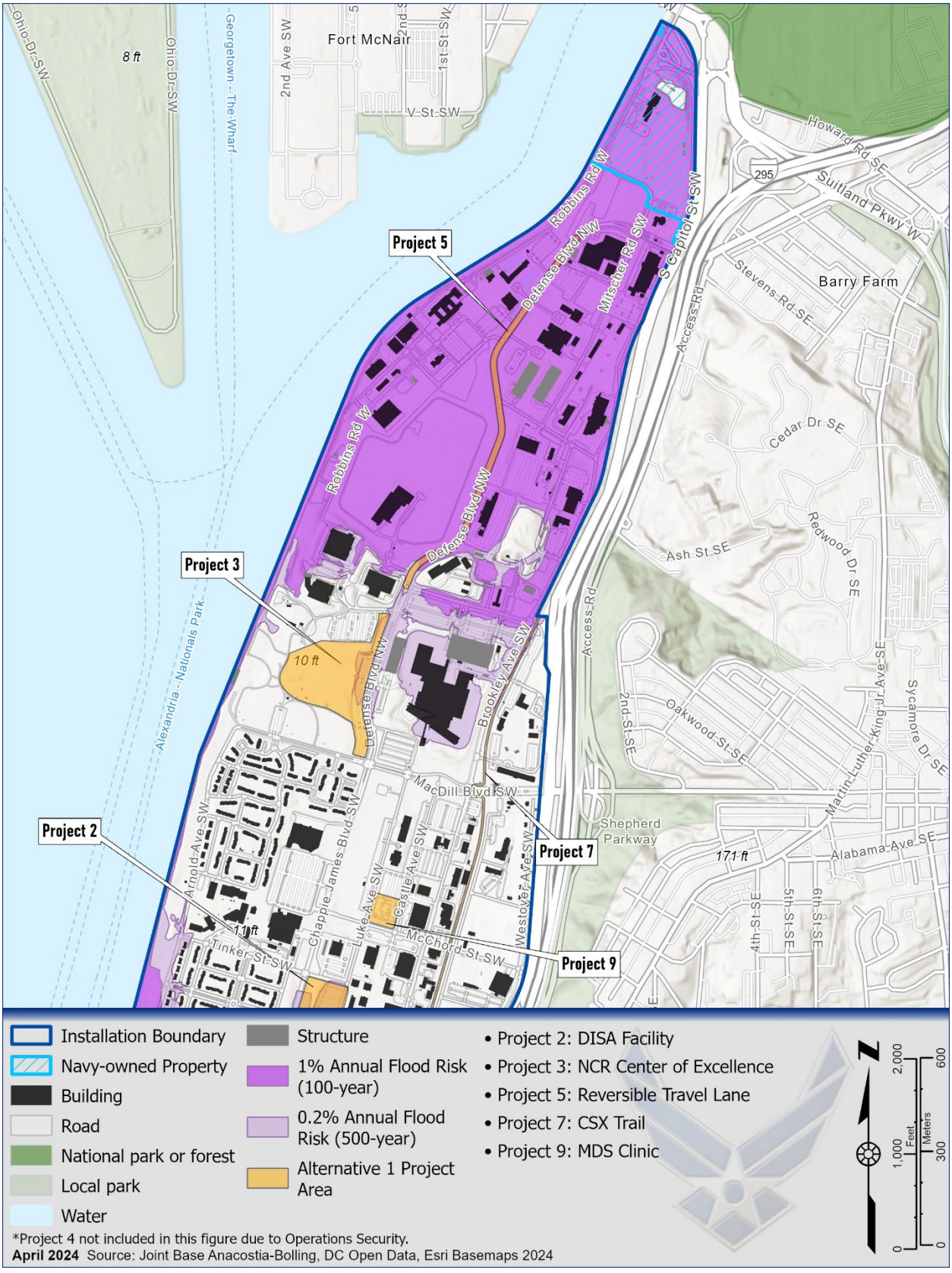
Table 2-3: Alternative 1 Project Locations

Project Number	Project Name	Alternative 1 Project Locations
1	Blanchard Barracks Demolition	The Blanchard Barracks and three other buildings that would be demolished under this project are located on approximately 20 acres within the Historic Bolling District.
2	DISA Facility	Following the demolition associated with Project 1, the site would be redeveloped with a new DISA facility. The redevelopment would include a 5-story main building, a central utility plant/service building, a gatehouse, and a new multi-level parking deck. The proposed site is within the Historic Bolling District.

Project Number	Project Name	Alternative 1 Project Locations
3	NCR Center of Excellence	The NCR Center of Excellence and an associated parking garage would be constructed on a portion of Giesboro Park west of Chappie James Blvd. Three of the five softball fields in Giesboro Park would be retained for recreation. The remaining two softball fields in Giesboro Park not adjacent to MacDill Blvd. would be redeveloped. The proposed site is within the Sentinels of the Capital District.
4	Electric Switch Station Reliability Improvements	The proposed corridor for this project is within the Historic Anacostia District, Sentinels of the Capital District, and Historic Bolling District.
5	Reversible Travel Lane on Defense Blvd.	This project would occur on Defense Blvd. from Boundary Road to the Firth Sterling Gate and would include bicycle lanes and new sidewalks. The portion of Defense Blvd. is within the Historic Anacostia District.
6	Connection of Waterfront Trail to Bellevue Housing	The proposed new multi-use trail would connect the south end of the Waterfront Trail adjacent to the Slip Inn to the Bellevue housing area traveling through the Doolittle Park housing area. This project is located within the Housing and Community Support District.
7	CSX Trail	The abandoned CSX tracks along CSX-owned right-of-way and DAF -owned right-of-way with a perpetual CSX easement would be repurposed to a multi-use trail. The trail would connect the Air Force Honor Guard campus to the Bellevue housing area paralleling Duncan Avenue. The CSX right-of-way is within the Historic Bolling District and Housing and Community Support District.
8	Replacement CDC	The replacement CDC would be constructed adjacent to the JBAB Charter School, on a green field site adjacent to Hickam Village, which would consolidate educational and youth support facilities in one area on the installation. This location is within the 500-year floodplain; mitigation measures would be incorporated into the project in accordance with applicable EO's, DoD building codes, and UFC standards. This site is within the Historic Bolling District.
9	MDS Clinic	The new 3-story 316th MDS Clinic facility would be constructed on McChord Street between Castle Avenue SW and Luke Avenue SW. This location would consolidate JBAB's medical facilities within the core town center in proximity to other community facilities. This project is within the Historic Bolling District.
10	South Gate & Visitor Center	This project would replace the existing South Gate with a new AT-compliant facility with more capacity, a modern visitor center, and drop-off/pick-up area serving the Charter School. Up to seven existing houses in Westover Estates would be demolished to provide space to fit all the gate components. The project is within the Housing and Community Support District.

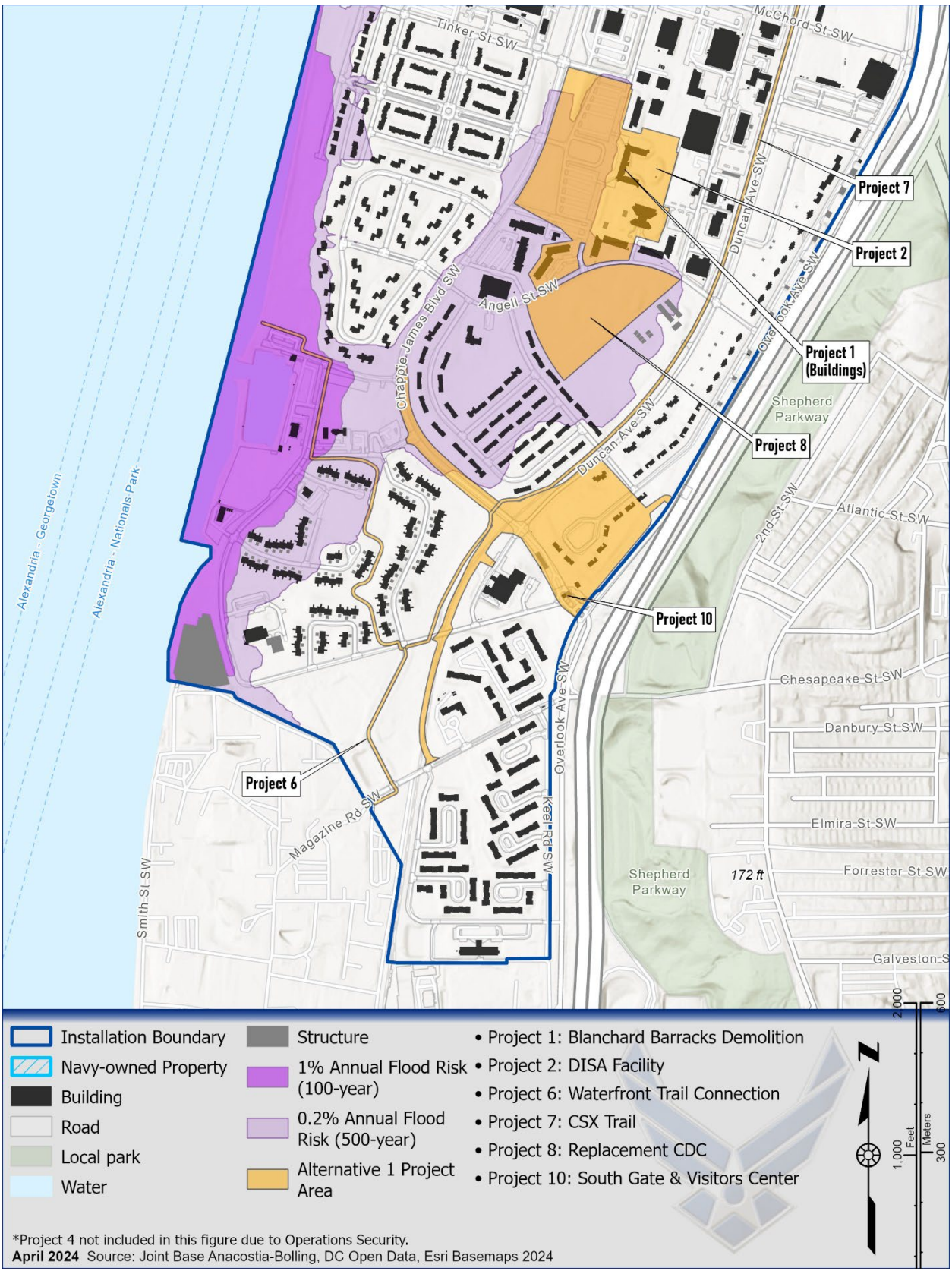
Several of the proposed projects are located within the 100-year or 500-year floodplain; therefore, a FONPA and mitigation measures must be adopted for implementation to occur. Mitigation measures could include, for example, elevating buildings, implementing floodproofing measures, or other mitigation, and would be determined in the design phase of each applicable project. Built facilities and any flood-susceptible utilities would comply with the standards and requirements set forth under EO 11988 and UFC 3-201-01 (2018). The floodplains and affected projects are shown in Figure 2-2 and Figure 2-3, and effects associated with the floodplains are further discussed in Section 3.2.

Figure 2-2: Proposed Development Plan Sites for Alternative 1, North JBAB



*Project 4 not included in this figure due to Operations Security.
April 2024 Source: Joint Base Anacostia-Bolling, DC Open Data, Esri Basemaps 2024

Figure 2-3: Proposed Development Plan Sites for Alternative 1, South JBAB



*Project 4 not included in this figure due to Operations Security.
April 2024 Source: Joint Base Anacostia-Bolling, DC Open Data, Esri Basemaps 2024

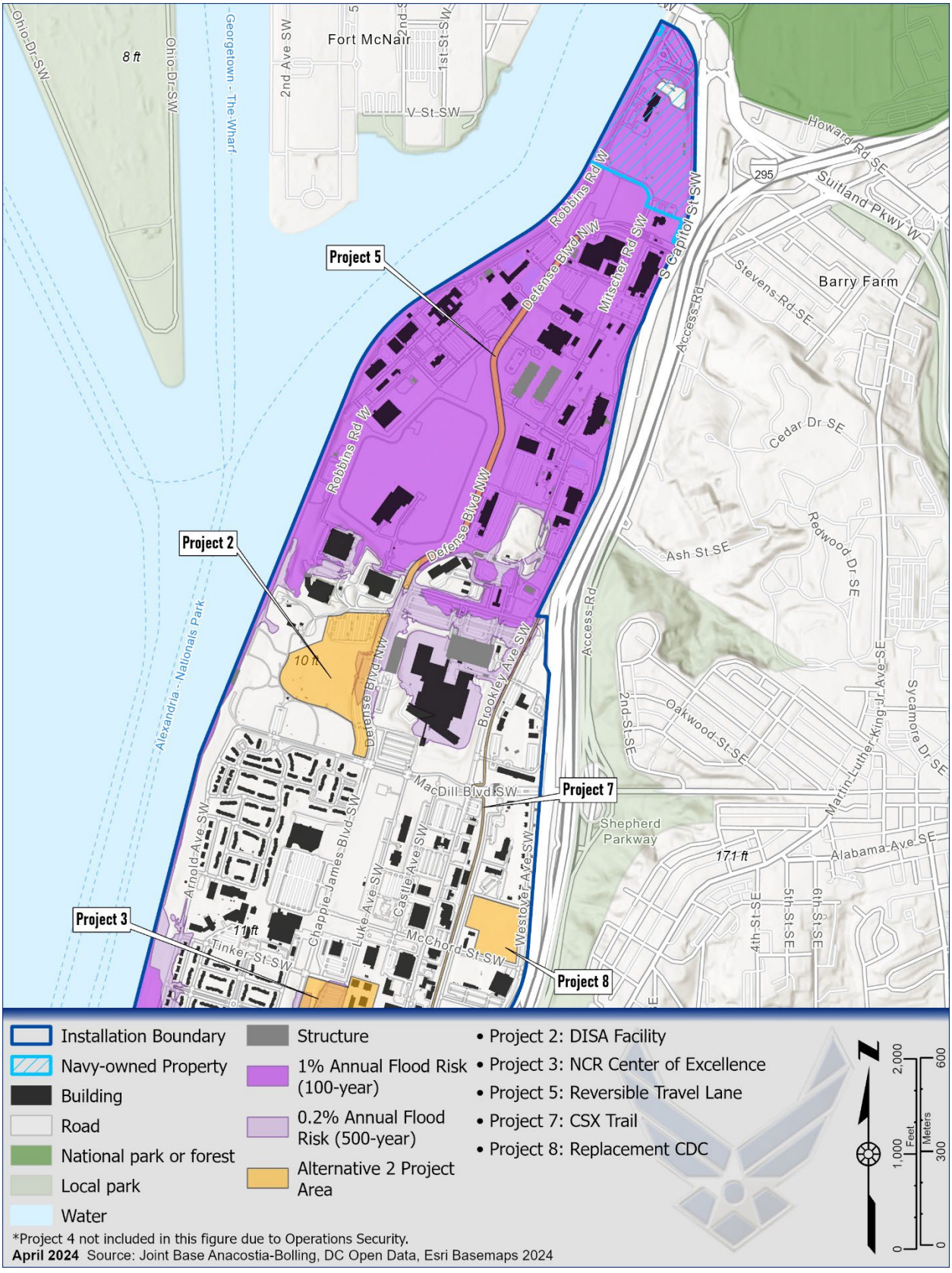
2.3.3 Alternative 2: Alternative Siting for IDP Five-Year Projects

Under Alternative 2, JBAB would construct the 10 projects as listed and described in the Proposed Action (Section 2.1); however, some of these projects would occur in different locations than Alternative 1. For Alternative 2, the locations of the 10 projects are described in Table 2-4 below. These project locations are depicted in Figure 2-4 and Figure 2-5.

Table 2-4: Alternative 2 Project Locations

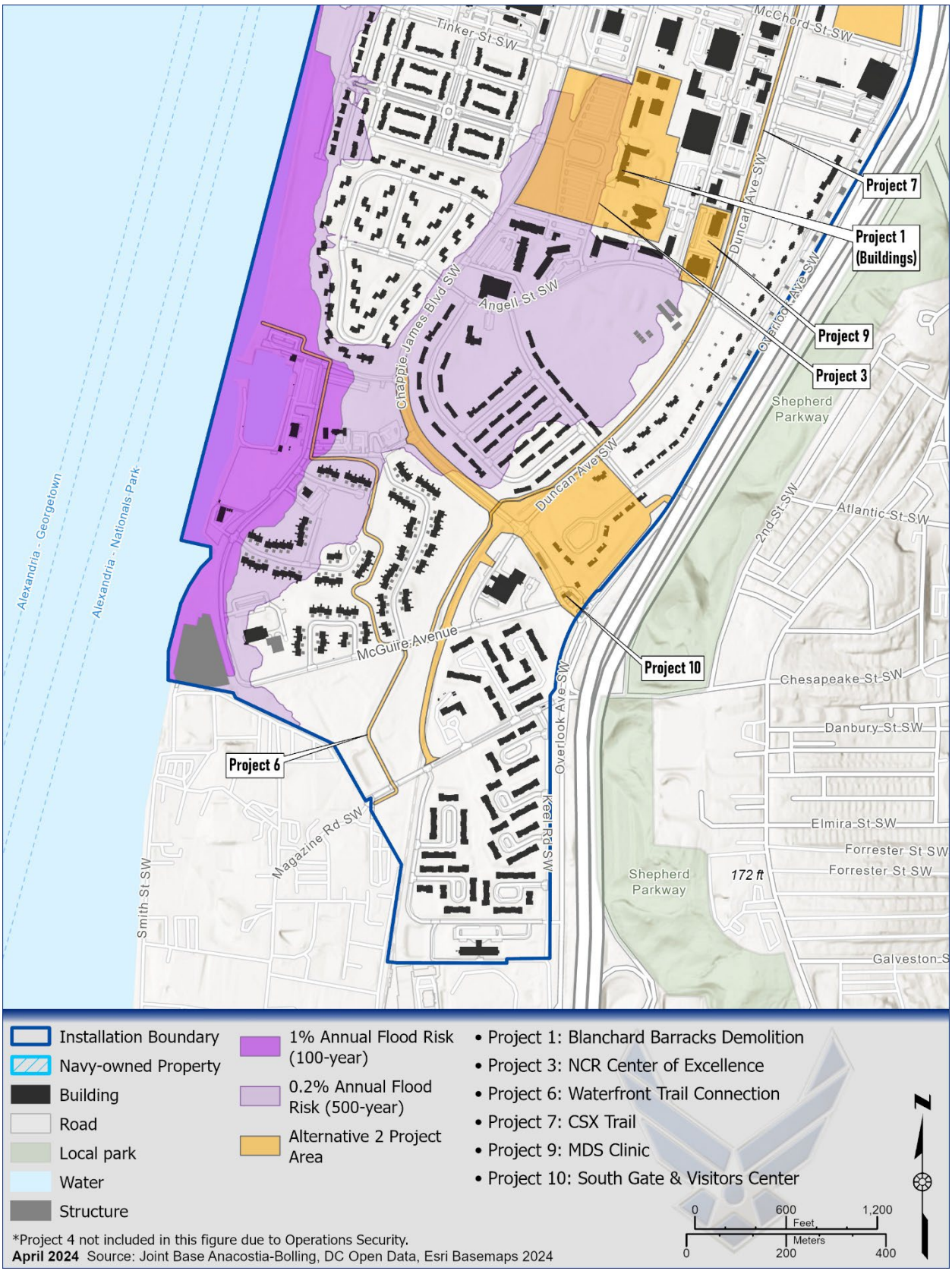
Project Number	Project Name	Alternative 2 Project Locations
1	Blanchard Barracks Demolition	Same location as under Alternative 1.
2	DISA Facility	The new DISA facilities (5-story main building, central utility plant/service building, gatehouse, and 3-level parking deck) would be constructed on a portion of Giesboro Park west of Chappie James Blvd. Three of the five softball fields in Giesboro Park would be retained for recreation. The remaining two softball fields in Giesboro Park not adjacent to MacDill Blvd. would be redeveloped.
3	NCR Center of Excellence	Following the demolition associated with Project 1, the site would be redeveloped with the NCR Center of Excellence. Four additional buildings on JBAB would be demolished to accommodate the redevelopment at this location, including Building 1303, Building 1304, Building 1305, and Building 1306. This project would include a new 3-story facility and a new multi-level parking deck.
4	Electric Switch Station Reliability Improvements	The proposed corridor for this project is similar to the Alternative 1 location but would be along a different route.
5	Reversible Travel Lane on Defense Blvd.	Same location as under Alternative 1.
6	Connection of Waterfront Trail to Bellevue Housing	Same location as under Alternative 1.
7	CSX Trail	Same location as under Alternative 1.
8	Replacement CDC	The replacement CDC would be built on vacant land north of McChord Street, east of Duncan Avenue, and west of Westover Avenue. The JBAB Historic Chapel, which is located within the same parcel, would remain in place and would be avoided. This site is in the Historic Bolling District.
9	MDS Clinic	The 316th MDS Clinic functions would mostly remain in their existing locations. A 10,000-SF one-story addition would be constructed on Building 17 and Building 1300 would be renovated. Building 3 would be vacated and its staff and operations would move to the new and renovated space, partially consolidating the MDS functions. This project is within the Historic Bolling District.
10	South Gate & Visitors Center	Same location as under Alternative 1.

Figure 2-4: Proposed Development Plan Sites for Alternative 2, North JBAB



*Project 4 not included in this figure due to Operations Security.
April 2024 Source: Joint Base Anacostia-Bolling, DC Open Data, Esri Basemaps 2024

Figure 2-5: Proposed Development Plan Sites for Alternative 2, South JBAB



*Project 4 not included in this figure due to Operations Security.
April 2024 Source: Joint Base Anacostia-Bolling, DC Open Data, Esri Basemaps 2024

Similar to Alternative 1, several of the proposed projects are located within the 100-year or 500-year floodplain; therefore, a FONPA and mitigation would be required for project implementation. Mitigation measures could include, for example, elevating buildings, implementing floodproofing measures, or other mitigation, and would be determined in the design phase of each applicable project. Built facilities and any flood-susceptible utilities would comply with the standards and requirements set forth under EO 11988 and UFC 3-201-01 (2018). The floodplains and affected projects are shown in Figure 2-4 and Figure 2-5, and effects associated with the floodplain are further discussed in Section 3.2, *Water Resources*.

2.4 Alternatives Considered but not Carried Forward for Detailed Analysis

Per the DAF EIAP Regulations at 32 C.F.R. 989.8(c), the DAF may expressly eliminate alternatives from detailed analysis. Reasonable selection standards were applied to determine whether action alternatives considered meet the project's purpose and need and satisfy the selection criteria. Accordingly, the following alternatives have been eliminated from further consideration based on the screening results presented in Section 2.2.

2.4.1 Reconfigure Arnold Gate to Exit Only

The DAF considered an alternative that would implement the 10 proposed projects described in Section 2.1 and cease using the Arnold Gate as an entry point for vehicles, converting it to an exit-only gate. The Arnold Gate has documented capacity issues as an entry point, and the proposed reconfiguration of the South Gate (Project 10) and the new Large Vehicle Inspection Station (LVIS) and entry point at the Firth Sterling Gate (planned for construction beginning in 2025) would accommodate vehicles entering the installation. While this alternative would address UFC compliance requirements at the gate and alleviate the capacity concerns, additional planning considerations would be required. Given the complexity of the desired gate modifications, the JBAB Transportation Management Plan lists the target date as 2031 (DAF, 2022). As a result, this project is not best suited for analysis and implementation during this five-year period. Therefore, it is not carried forward for further analysis in this EA.

2.4.2 Implement IDP Five-Year Projects Without Transportation Improvements

The DAF considered implementation of the five-year projects without the transportation improvements (Project 5, Reversible Travel Lane on Defense Blvd. and Project 10 South Gate reconfiguration). This would not meet all criteria listed in Section 2.2, specifically it would not meet anticipated future military mission and activities at JBAB and would not meet DoD safety and AT requirements, including setbacks, consistent with UFC 4-010-01. Therefore, this alternative is not carried forward for further analysis in this EA.

3 Affected Environment and Environmental Consequences

The affected environment sections within this chapter describe the existing environmental conditions for those relevant resource areas affected by the alternatives, including reasonably foreseeable environmental trends and planned actions in the area. The affected environment discussion informs the environmental consequences analysis and mitigation measures. The environmental consequences sections within this chapter include a discussion of the reasonably foreseeable direct and indirect environmental effects of implementing the alternatives on the relevant resource areas. The No Action Alternative serves as the baseline against which the Proposed Action and other alternatives are compared. Due to the proposed projects having varying locations throughout the installation, the study area for this analysis generally includes all of the JBAB property; however, the specific study area may vary among resource areas depending on the extent to which that resource may be affected.

DAF's NEPA Implementing Regulations directs agencies to identify at an early stage the important environmental issues deserving analysis and to deemphasize issues with negligible, minimal, or nonexistent adverse effects, in order to narrow the scope of the environmental review, enhance efficiency, and produce concise environmental documents. Issues deemed negligible or not relevant to the Proposed Action must be only briefly discussed. For this EA, the following resource areas were evaluated in detail for potential significant effects: air quality, water resources, biological resources, cultural resources, infrastructure, noise, hazardous materials and waste, and transportation. Anticipated installation resiliency-related effects on the affected environment were analyzed and are briefly discussed in the air quality, water resources, and biological resources sections. The potential environmental effects on several resource areas were initially analyzed and determined to be insignificant issues due to their minimal adverse effects. The following summarizes those resource areas not analyzed in detail and the basis for this conclusion:

Geological Resources: Geological resources include topography, geology, and soils. Past development activities, including shoreline stabilization and floodplain modifications, have dramatically altered the topography and soils at JBAB. Most soil types at JBAB (86.4 percent) are soil complexes that have been highly disturbed or have an urban component due to human activities. The remaining 13.6 percent of soils are Melvin silt loam (5.8 percent), Dunning soils (5.0 percent), Keyport soils (1.6 percent), and Muirkirk soils (1.2 percent). None of the soils at the project sites are classified as highly erodible (U.S. Air Force, 2021).

Ground disturbance would be similar under either action alternative. Prior to construction of the proposed projects, a geotechnical report would be prepared that identifies and addresses site-specific limitations. Per EO 11988 and UFC 3-201-01 (2018), mitigation measures would be adopted to ensure the built facilities and any flood-susceptible utilities would be outside of the 100-year flood elevation; these measures would be determined in the design phase of each applicable project. One potential measure would be to use fill material to elevate such facilities to a minimum of three feet above the floodplain, which would alter the topography of the project sites. Pursuant to the Energy Independence and Security Act (Section 438), post-development hydrology of the site would meet or improve the pre-development hydrology, which includes the slopes that facilitate stormwater drainage. All ground-disturbing activities, including importing fill material, soil removal, grading, excavating, and recontouring, would incorporate site-specific best management practices (BMPs) to reduce the potential for erosion and sedimentation. Incorporation of site-specific engineering measures in the geotechnical reports during site design and use of BMPs would limit erosion and sedimentation during construction. Under the Proposed Action, no

significant effects on geological resources would be expected. Therefore, geological resources are not analyzed in further detail.

Land Use: Land use includes current and planned uses and the regulations, policies, and zoning that pertain to land use management and restrictions. The affected environment for land use is characterized within future development plans, land use studies, site management plans, and other planning documents. The IDP at JBAB is the primary long-term document to support the planning vision of the installation; therefore, implementation of the proposed projects would occur in a manner that fully considers the installation's planning districts, land use categories, and planning constraints. The 10 projects under the Proposed Action are generally consistent with the established IDP framework plans and would not represent significant changes in existing land uses or land use intensities, nor would they have potential to significantly impact land use outside of the installation. There would be no changes in land use compatibility on JBAB under either action alternative. Therefore, land use is not analyzed in further detail.

Public Health and Safety: Public health and safety includes activities, occurrences, or operations that have the potential to affect the safety, well-being, or health of installation personnel or members of the public pertaining to construction activities, operations, community emergency services, and environmental health and safety risks. Construction and demolition activities increase short-term safety risks. Contractors performing construction activities would be required to prepare and follow safety protocols appropriate for specific construction and demolition tasks, and to comply with applicable worker safety laws. Under Alternatives 1 and 2, the demolition of several vacant structures that contain hazardous materials like lead and asbestos would reduce the long-term risk posed by these substances once they have been removed from the installation. Neither alternative would conflict with operational safety constraints during construction or once the proposed facilities are operational. The new infrastructure would be secure and located within installation boundaries where public access is restricted. In addition, JBAB has on-base emergency and security services that would provide fire and police support for either Alternatives 1 or 2.

No adverse effects on the health and safety of the public would be expected, as construction and demolition activities would occur within the boundaries of JBAB, which is not open to the public. Both alternatives could result in long-term, beneficial effects on public health and safety, as the updated South Gate and associated visitor center would allow for additional capacity, reducing traffic backups on roadways. The construction of additional bike lanes, sidewalks, and trails would enhance the safety of residents and visitors to the installation.

For these reasons, public health and safety is not analyzed in further detail.

Socioeconomics: Construction and demolition would have negligible, beneficial effects on the local and regional economy from employment and the purchase of goods and services. In the short-term, construction personnel would be required and could be filled by the Washington, DC area population. Indirect employment opportunities could result from an increase in local expenditures on or outside of JBAB (e.g., gas stations, convenience stores, restaurants). These effects would be negligible given the size of the Washington, DC metropolitan area.

In the long-term, an increase of 2,150 JBAB employees is anticipated under the Proposed Action. Approximately 22 new staff would be needed at the replacement CDC, which would be filled by the general public. Approximately 2,128 new personnel associated with the NCR Center of Excellence would be federal employees. It is anticipated all new staff already reside within the NCR and employee relocation is not expected. The Proposed Action is not expected to affect the population, employment characteristics, schools, local services (such as law enforcement, fire protection, or medical services) or housing occupancy status in the region. Therefore, socioeconomic resources are not analyzed in detail.

3.1 Air Quality

This discussion of air quality includes criteria pollutants, standards, sources, permitting, and greenhouse gases (GHGs). Air quality in a given location is defined by the concentration of various pollutants in the atmosphere. A region's air quality is influenced by many factors, including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

3.1.1 Regulatory Setting

Under the Clean Air Act, the U.S. Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS; 40 C.F.R. Part 50) for principal pollutants. These pollutants—called criteria pollutants—include carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), Volatile Organic Compounds (VOCs), suspended particulate matter less than or equal to 10 micrometers in diameter (PM_{10}), fine particulate matter less than or equal to 2.5 micrometers in diameter ($PM_{2.5}$), and hazardous air pollutants (HAPs) (including lead). Areas where the measured concentrations of these criteria pollutants meet or are cleaner than the NAAQS are called attainment areas. Areas that violate federal air quality standards are designated as nonattainment areas. State Implementation Plans are then prepared to identify the measures by which that area will achieve attainment. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment. In some cases, the USEPA is not able to determine an area's status with available information, and those areas are designated as unclassifiable and considered to be in attainment.

3.1.2 Affected Environment

JBAB is located in Washington, DC, within the National Capital Interstate Air Quality Control Region (40 C.F.R 81.12). DOEE is responsible for implementing and enforcing air quality regulations within Washington, DC, which the USEPA has determined to be in moderate nonattainment with the 2015 8-hour ozone NAAQS. Washington, DC was redesignated to maintenance for the 2008 8-hour ozone NAAQS and the carbon monoxide NAAQS (USEPA, 2023b).Washington, DC is in attainment for all other criteria pollutants, though it was previously designated as a maintenance area for $PM_{2.5}$ before that standard was subsequently revoked. Table 3-1 shows the most recent criteria pollutants inventory for Washington, DC and the National Capital Interstate Air Quality Control Region.

Table 3-1: District of Columbia Criteria and Hazardous Air Pollutant Air Emissions Inventory (2020)

Location	NO_x (tpy)	VOC (tpy)	CO (tpy)	SO_2 (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Total HAP (tpy)
District of Columbia	3,030	7,748	23,459	20	4,347	1,249	1,118
National Capital Air Quality Control Region	33,670	92,014	304,641	3,681	41,492	14,903	13,100

Source: (USEPA, 2023a)
Key: NO_x = nitrogen oxides; VOC = volatile organic compound; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter less than or equal to 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than or equal to 2.5 micrometers in diameter; HAP = hazardous air pollutant (including lead); tpy = tons per year.
Note: The National Capital Intrastate Air Quality Control Region includes Montgomery County and Prince Georges County in Maryland; and Arlington County, Fairfax County, Loudoun County, and Prince William County in Virginia (as so delimited, the Virginia portion of the region will include the City of Alexandria, the City of Fairfax, and the City of Falls Church).

Under the Clean Air Act (section 176(c)(4)), General Conformity requires federal agencies to collaborate with state, tribal, and local governments when proposed actions within nonattainment or maintenance areas have the potential to affect local air quality implementation plans. Under this rule, a Conformity Determination is required when new emissions have the potential to exceed *de minimis* thresholds of criteria pollutants. *De minimis* emission levels are "the minimum threshold for which a conformity determination must be performed" (USEPA, 2023c). VOCs and nitrogen oxides (NO_x) emissions are used to represent ozone generation because they are precursors of ozone.

The National Capital Interstate Air Quality Control Region is also designated as an ozone transport region, meaning that regional urban influences from well outside the nonattainment area also contribute substantially to local ozone pollution. The ozone transport region was established by the 1990 Clean Air Act as amended under 40 C.F.R. 81.457 and includes Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Washington, DC, and portions of the Northern Virginia suburbs. *De minimis* thresholds for NAAQS within an ozone transport region are 50 tons per year for VOCs, 100 tons per year NO_x, and 100 tons per year for sulfur dioxide (USEPA, 2023c).

GHGs are gases that trap heat in the atmosphere. GHGs produced by fossil-fuel combustion are primarily carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). These three GHGs represent approximately 97 percent of all U.S. GHG emissions. GHG emissions are typically quantified and regulated in units of CO_2 equivalents (CO_2e). CO_2e consider the global warming potential of each GHG. The global warming potential is the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere. The global warming potential allows comparison of global warming effects between different gases; the higher the global warming potential, the more that gas contributes to installation resiliency challenges (for example, extreme weather or increased natural hazards that could affect mission readiness) in comparison to CO_2. The DAF has adopted the Prevention of Significant Deterioration (PSD) threshold for GHG of 75,000 tons per year of CO_2e as an indicator or "threshold of insignificance" for NEPA air quality effects in all areas. This indicator does not define a significant impact; however, it provides a threshold to identify actions that are insignificant. Actions with a net change in GHG (CO_2e) emissions below the indicator (threshold) are considered too insignificant on a global scale to warrant any further analysis.

The context of an action, including its surroundings and environmental background, is important for evaluating its GHG impact. From an air quality perspective, this context refers to the local area's air quality status, whether it meets national standards or is classified as attainment, nonattainment, or maintenance for criteria and hazardous pollutants. GHGs are not hazardous to health at normal levels, and on a global scale, only large cumulative emissions can potentially contribute to climate warming. Thus, action-related GHGs usually have minimal impact on local air quality.

The most recent GHG emissions inventory for Washington, DC, and the National Capital Air Quality Control Region are shown in Table 3-2.

Table 3-2: District of Columbia Greenhouse Gas Air Emissions Inventory (2020)

Location	CO_2e from CO_2 (tpy)	CO_2e from CH_4 (tpy)	CO_2e from N_2O (tpy)	Total CO_2e (tpy)
District of Columbia	1,971,861	307	32	1,972,200
National Capital Air Quality Control Region	25,769,184	11,034	344	25,780,562

Source: (USEPA, 2023a)
Key: CO_2e = carbon dioxide equivalents; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; tpy = tons per year. Conversion factors for CO_2e are different for each greenhouse gas. CO_2 = 1, CH_4 = 25, and N_2O = 298.

The USEPA oversees programs for stationary-source air operating permits—called Title V permits—for new or modified major stationary source construction and operation. JBAB currently operates under Permit No. 042, effective April 28, 2021, through April 27, 2026 (DOEE, 2021). The Title V permit covers operations from diesel generators, boilers, fuel storage, degreasers, refrigerants, paint operations, printing operations, dust collectors, water heaters, air conditioning refrigerant recovery systems, metalwork, and woodwork. Consistent with the requirements of the Title V permit, the DAF must annually certify to DOEE regarding permit compliance, including semiannual reporting on actual stationary source equipment usage and associated air emissions estimates. Air sources and actual emissions vary somewhat year to year as equipment is added or removed and based on actual operations and materials consumption (AFCEC, 2023); however, actual criteria pollutant emissions are consistently below the total potential to emit at JBAB. In addition to criteria pollutants, JBAB also quantifies and reports facility-wide GHG emissions annually under Title V permit requirements. The most recent criteria pollutants air emissions inventory for JBAB are shown in Table 3-3, and GHG emission for the installation are shown in Table 3-4.

Table 3-3: JBAB Criteria Pollutants Air Emissions Inventory

Year	NO_x (tpy)	VOC (tpy)	CO (tpy)	SO_2 (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Total HAP (tpy)
2020	16.092	8.192	13.964	0.227	1.345	1.318	0.469
2021	13.500	5.586	8.168	0.046	0.828	0.818	0.225
2022	9.989	11.940	5.508	0.026	0.596	0.589	0.480

Source: (AFCEC, 2023)
Key: NO_x = nitrogen oxides; VOC = volatile organic compound; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = suspended particulate matter less than or equal to 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than or equal to 2.5 micrometers in diameter; HAP = hazardous air pollutant (including lead); tpy = tons per year.

Table 3-4: JBAB Greenhouse Gas Air Emissions Inventory

Year	CO_2e from CO_2 (tpy)	CO_2e from CH_4 (tpy)	CO_2e from N_2O (tpy)	Total CO_2e (tpy)
2022	5,517.416	0.148	0.021	5,517.774

Source: (AFCEC, 2023)
Key: CO_2e = carbon dioxide equivalents; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; tpy = tons per year. Conversion factors for CO_2e are different for each greenhouse gas. CO_2 = 1, CH_4 = 25, and N_2O = 298.

3.1.3 Environmental Consequences

This section identifies and discloses potential air quality effects from criteria pollutant emissions associated with the Proposed Action. This air quality impact analysis follows the DAF EIAP Regulations for Air Quality. Adverse effects to air quality would be considered significant if the Proposed Action were to cause pollutant concentrations to exceed one or more of the NAAQS for any of the time periods analyzed or were to increase the frequency or severity of any such existing violations.

The DAF's Air Conformity Applicability Model (ACAM) was used to analyze the potential air quality effects associated with the Proposed Action, as described above, in accordance with the Air Force Manual 32-7002, the DAF EIAP Regulations, and the General Conformity Rule (40 C.F.R. 93 Subpart B). Emissions of NO_x and VOCs from the Proposed Action would be below their respective *de minimis* thresholds and would not be regionally significant. Therefore, the Proposed Action is exempt from further analysis under the General Conformity Rule, and a Record of Conformity Analysis is included in Appendix C.

3.1.3.1 No Action Alternative

Under the No Action Alternative, construction activities and emissions associated with the Proposed Action would not occur. There would be no impacts to air quality as air emissions at JBAB would remain the same and consistent with the operational requirements of the current Title V Permit. Therefore, there would be no significant effects, under the No Action Alternative.

3.1.3.2 Alternative 1: Implement IDP Five-Year Projects

Under Alternative 1, construction and demolition effects to air quality would be temporary in nature, limited to the duration of construction activities, and would be caused by equipment and vehicle operation, asphalt paving, and dust generated from disturbance on unpaved areas. Construction activities would include renovation or demolition of existing buildings; site clearing and grading; road/trail construction; trenching and excavation; paving; constructing new buildings and associated utilities; and application of architectural coatings. Construction period emissions depend on expected material quantities and equipment/vehicle utilization requirements for each project component. Contractors may be required to obtain appropriate permits and comply with the permit provisions for certain types of equipment and temporary facilities (e.g., portable crushers and batch plants). HAPs associated with demolition of existing buildings including asbestos and lead-based paint (LBP) and appropriate protocols are discussed in detail within Section 3.6.

Air quality effects primarily arise from dust and fugitive emissions generated during earthmoving, material handling, and the operation of heavy machinery. Construction activities, especially during site preparation and demolition, are likely to increase particulate matter (PM_{10} and $PM_{2.5}$) concentrations in the air. These particulates can affect local air quality and may cause temporary visibility issues and potential health concerns. Additionally, the movement of vehicles and equipment on unpaved surfaces contributes to fugitive dust emissions. Measures such as water spraying, covering of transported materials, and adherence to local dust control regulations would be implemented to minimize these effects during the project's active phases.

Operational emissions associated with Alternative 1 would result from fuel combustion by newly installed emergency generators, space heating equipment, and increased vehicular travel resulting from the 2,128 additional employees for the NCR Center of Excellence facility and 22 additional employees for the CDC. To estimate operational emissions associated with the increase in base personnel, the ACAM modeling inputs assumed employee commutes to be an average of 20 miles round trip, 5 days per week, per new employee. This represents a worst-case, or highest emissions, scenario. Actual emissions would be less due to limited parking availability on JBAB and the use of alternative transportation (such as carpool or public transit). Table 3-5 shows estimated criteria pollutant emissions as a result of Alternative 1. The table shows that the worst-cast scenario under Alternative 1 would result in air emissions well below the established thresholds each year, and thus would have minor effects on air quality.

From an air quality perspective, context of an action is the local area’s ambient air quality relative to meeting the NAAQSs, expressed as attainment, nonattainment, or maintenance areas (this designation is considered the attainment status). GHGs are non-hazardous to health at normal ambient concentrations and, at a cumulative global scale, action related GHG emissions can only potentially cause warming of the climatic system. Therefore, the action-related GHGs generally have an insignificant impact to local air quality.

Table 3-5: Alternative 1 Criteria Pollutant Emissions

Year	Project	CO	NH_3	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC
2025	1 — Blanchard Barracks Demolition	0.233	0.006	0.312	1.955	0.007	0	0.021
	2025 Total	**0.233**	**0.006**	**0.312**	**1.955**	**0.007**	**0**	**0.021**
	Threshold[1] (tons/year)	**250**	**250**	**100**	**250**	**250**	**250**	**50**
	Exceedance (Yes or No)	**No**	**No**	**No**	**No**	**No**	**No**	**No**
2027	4 — Electric Improvements	0.546	0.003	0.424	0.204	0.012	0.001	0.345
	5 — Reversible Travel Lane	0.765	0.003	0.588	4.025	0.017	0.001	0.07
	6 — Connection of Waterfront Trail	0.134	0.001	0.1	0.787	0.003	0	0.013
	7 — CSX Trail	0.13	0.001	0.097	0.744	0.003	0	0.012
	2027 Total	**1.575**	**0.008**	**1.209**	**5.76**	**0.035**	**0.002**	**0.44**
	Threshold[1] (tons/year)	**250**	**250**	**100**	**250**	**250**	**250**	**50**
	Exceedance (Yes or No)	**No**	**No**	**No**	**No**	**No**	**No**	**No**
2029	2 — DISA Facility	1.975	0.025	1.689	4.789	0.036	0.004	13.013
	3 — NCR Center of Excellence	1.916	0.022	1.612	4.821	0.036	0.004	10.234
	8 — Replacement CDC	0.587	0.002	0.419	0.263	0.01	0.001	0.397
	9 — MDS Clinic	0.821	0.004	0.594	0.568	0.015	0.001	1.077
	10 — South Gate and Visitor Center	1.222	0.007	0.896	1.131	0.021	0.002	1.026
	2029 Total	**6.521**	**0.06**	**5.27**	**11.572**	**0.118**	**0.012**	**25.747**
	Threshold[1] (tons/year)	**250**	**250**	**100**	**250**	**250**	**250**	**50**
	Exceedance (Yes or No)	**No**	**No**	**No**	**No**	**No**	**No**	**No**
2030	3 — NCR Center of Excellence	36.091	0.526	2.981	0.211	0.204	0.041	2.812
	8 — Replacement CDC	1.399	0.02	0.155	0.014	0.014	0.006	0.113
	9 — MDS Clinic	0.274	0	0.331	0.028	0.028	0.007	0.023
	10 — South Gate and Visitor Center	0.268	0	0.329	0.032	0.032	0.011	0.027
	2030 Total	**39.699**	**0.546**	**5.795**	**0.447**	**0.44**	**0.091**	**3.098**
	Threshold[1] (tons/year)	**250**	**250**	**100**	**250**	**250**	**250**	**50**
	Exceedance (Yes or No)	**No**	**No**	**No**	**No**	**No**	**No**	**No**

[1] Thresholds correspond to O_3 *de minimis* levels for NO_x and VOC, and DAF Insignificance Indicators for all other pollutants.
Source: ACAM (version 5.0.23a)
Key: NO_x = nitrogen oxides; NH_3 = Ammonia; VOC = volatile organic compound; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = suspended particulate matter less than or equal to 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than or equal to 2.5 micrometers in diameter; DISA = Defense Information System Agency; NCR = National Capital Region; CDC = Child Development Center; MDS = Medical Squadron.

GHG emissions associated with Alternative 1 would include short-term, minor emissions during construction and demolition activities. These temporary GHG emissions would be well below the PSD threshold for GHG of 75,000 tons per year of CO_2e (68,039 metric tons per year). Long-term, minor operational GHG emissions would result from heating equipment and backup generators for the new facilities under Alternative 1 including the NCR Center of Excellence, South Gate and Visitor Center, DISA Facility, CDC, and Medical Squadron Clinic. Any new generators would be installed in coordination with the 11th Civil Engineer Squadron/Civil, Environmental and Infrastructure Engineering department and in accordance with all permitting and inspection requirements. The remaining proposed projects would not be expected to result in any operational GHG emissions. Table 3-6 shows estimated GHG emissions from construction and demolition activities and Table 3-7 shows estimated operational GHG emissions. The complete GHG calculations for Alternative 1 can be found in Appendix C.

Summary

Alternative 1 would result in minor effects on air quality. Based upon the results of the ACAM analysis (Appendix C), Alternative 1 would not result in significant direct or indirect effects to air quality. Criteria pollutant emissions would be well below *de minimis* thresholds and would not interfere with state or local

air quality implementation plans. GHG emissions would be negligible and insignificant in relation to global yearly GHG emissions. There would be no significant air quality effects under Alternative 1.

Table 3-6: Alternative 1 Construction and Demolition GHG Emissions

Year	Project	CO_2 (mton/yr)	CH_4 (mton/yr)	N_2O (mton/yr)	Total CO_2e (mton/yr)
2025	Blanchard Barracks Demolition	116	0.003	0.014	120
	2025 Total	**116**	**0.003**	**0.014**	**120**
2027	Electric Improvements	106	0.004	0.004	107
	Reversible Travel Lane	145	0.005	0.006	147
	Connection of Waterfront Trail	26	0.001	0.001	26
	CSX Trail	25	0.001	0.001	25
	2027 Total	**302**	**0.011**	**0.012**	**305**
2029–2030	DISA	594	0.020	0.052	610
	NCR Center of Excellence	555	0.019	0.047	569
	Replacement CDC	110	0.004	0.004	112
	MDS Clinic	161	0.006	0.007	163
	South Gate & Visitor Center	251	0.009	0.012	255
	2029–2030 Total	**1,670**	**0.058**	**0.122**	**1,709**
	PSD Threshold (mton/year)				**68,039**
2025–2036	State Annual GHG Emissions	2,879,913	3,206	268	2,883,387
2025–2036	U.S. Annual GHG Emissions	5,136,454,179	25,626,912	1,500,708	5,163,581,798

Source: ACAM (version 5.0.23a), (NOAA, 2022)
Key: CO_2e = carbon dioxide equivalents; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; mton/yr = metric tons per year; NCR = National Capital Region; CDC = Child Development Center; MDS = Medical Squadron; PSD = Prevention of Significant Deterioration; GHG = greenhouse gas. Conversion factors for CO_2e are different for each greenhouse gas. CO_2 = 1, CH_4 = 25, and N_2O = 298.

Table 3-7: Alternative 1 Operational GHG Emissions

Project	CO_2 (mton/yr)	CH_4 (mton/yr)	N_2O (mton/yr)	CO_2e (mton/yr)
NCR Center of Excellence	6,284	0.192	0.103	6,309
South Gate and Visitor Center	311	0.006	0.006	312
DISA Facility	4,437	0.084	0.084	4,442
CDC	262	0.008	0.004	263
MDS Clinic	337	0.006	0.006	338
Total Yearly Operational GHG Emissions	**11,631**	**0.286**	**0.203**	**11,664**
PSD Threshold (mton/year)				**68,039**

Source: ACAM (version 5.0.23a), (NOAA, 2022)
Key: CO_2e = carbon dioxide equivalents; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; mton/yr = metric tons per year; NCR = National Capital Region; DISA = Defense Information System Agency; CDC = Child Development Center; MDS = Medical Squadron; GHG = greenhouse gas; PSD = Prevention of Significant Deterioration. Conversion factors for CO_2e are different for each greenhouse gas. CO_2 = 1, CH_4 = 25, and N_2O = 298.

3.1.3.3 Alternative 2: Alternative Siting for IDP Five-Year Projects

Table 3-8 shows estimated criteria pollutant emissions that would be expected as a result of Alternative 2.

Based upon the results of the ACAM analysis (Appendix C), air quality effects under Alternative 2 would be very similar to those for Alternative 1, with slight variations between the two as a result of different locations for some of the projects. As compared to Alternative 1, Alternative 2 would result in slightly less criteria pollutant emissions during construction and demolition (see the MDS Clinic results in Table 3-5 and the MDS Clinic results in Table 3-8). However, this short-term effect on air quality for Alternative 2 would still have the same intensity as Alternative 1 (minor). Operational emissions associated with facility heating, backup generators, and additional employee commutes would also be long-term and minor, similar to Alternative 1.

Table 3-8: Alternative 2 Criteria Pollutant Emissions

Year	Project	CO	NH_3	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC
2025	1 — Blanchard Barracks Demolition	0.233	0.006	0.312	1.955	0.007	0	0.021
	2025 Total	**0.233**	**0.006**	**0.312**	**1.955**	**0.007**	**0**	**0.021**
	Threshold[1] (tons/year)	**250**	**250**	**100**	**250**	**250**	**250**	**50**
	Exceedance (Yes or No)	**No**	**No**	**No**	**No**	**No**	**No**	**No**
2027	4 — Electric Improvements	0.546	0.003	0.424	0.204	0.012	0.001	0.345
	5 — Reversible Travel Lane	0.765	0.003	0.588	4.025	0.017	0.001	0.07
	6 — Connection of Waterfront Trail	0.134	0.001	0.1	0.787	0.003	0	0.013
	7 — CSX Trail	0.13	0.001	0.097	0.744	0.003	0	0.012
	2027 Total	**1.575**	**0.008**	**1.209**	**5.76**	**0.035**	**0.002**	**0.44**
	Threshold[1] (tons/year)	**250**	**250**	**100**	**250**	**250**	**250**	**50**
	Exceedance (Yes or No)	**No**	**No**	**No**	**No**	**No**	**No**	**No**
2029	2 — DISA Facility	1.975	0.024	1.689	4.79	0.035	0.004	13.013
	3 — NCR Center of Excellence	1.916	0.022	1.612	4.821	0.026	0.004	10.234
	8 — Replacement CDC	0.587	0.002	0.419	0.263	0.01	0.001	0.397
	9 — MDS Clinic	0.439	0.001	0.266	0.067	0.008	0.001	0.148
	10 — South Gate and Visitor Center	1.222	0.007	0.896	1.131	0.021	0.002	1.026
	2029 Total	**6.139**	**0.056**	**4.882**	**11.072**	**0.1**	**0.012**	**24.818**
	Threshold[1] (tons/year)	**250**	**250**	**100**	**250**	**250**	**250**	**50**
	Exceedance (Yes or No)	**No**	**No**	**No**	**No**	**No**	**No**	**No**
2030	3 — NCR Center of Excellence	36.091	0.526	2.981	0.211	0.204	0.041	2.812
	8 — Replacement CDC	1.399	0.02	0.155	0.014	0.014	0.006	0.113
	9 — MDS Clinic	0.043	0	0.056	0.008	0.008	0.005	0.007
	10 — South Gate and Visitor Center	0.268	0	0.329	0.032	0.032	0.011	0.027
	2030 Total	**37.801**	**0.546**	**3.521**	**0.265**	**0.258**	**0.037**	**2.959**
	Threshold[1] (tons/year)	**250**	**250**	**100**	**250**	**250**	**250**	**50**
	Exceedance (Yes or No)	**No**	**No**	**No**	**No**	**No**	**No**	**No**

[1] Thresholds correspond to O_3 *de minimis* levels for NO_x and VOC, and DAF Insignificance Indicators for all other pollutants.
Source: ACAM (version 5.0.23a)
Key: NO_x = nitrogen oxides; NH_3 = Ammonia; VOC = volatile organic compound; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = suspended particulate matter less than or equal to 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than or equal to 2.5 micrometers in diameter; DISA = Defense Information System Agency; NCR = National Capital Region; CDC = Child Development Center; MDS = Medical Squadron.

Alternative 2 GHG emissions would be well below the PSD threshold for GHG of 75,000 tons per year of CO_2e (68,039 metric ton/year) and would be negligible in comparison to global yearly GHG emissions. Table 3-9 and Table 3-10 show estimated GHG emissions from Alternative 2 along with estimated GHG emissions at the state and federal level for relative comparisons. The complete GHG calculations for Alternative 2 can be found in Appendix C.

Table 3-9: Alternative 2 Construction and Demolition GHG Emissions

Year	Project	CO_2 (mton/yr)	CH_4 (mton/yr)	N_2O (mton/yr)	Total CO_2e (mton/yr)
2025	Blanchard Barracks Demolition	116	0.003	0.014	120
	2025 Total	**116**	**0.003**	**0.014**	**120**
2027	Electric Improvements	106	0.004	0.004	107
	Reversible Travel Lane	145	0.005	0.006	147
	Connection of Waterfront Trail	26	0.001	0.001	26
	CSX Trail	25	0.001	0.001	25
	2027 Total	**302**	**0.011**	**0.012**	**305**
2029–2030	DISA Facility	594	0.022	0.059	610
	NCR Center of Excellence	552	0.019	0.047	566
	Replacement CDC	110	0.004	0.004	112
	MDS Clinic	71	0.003	0.001	72
	South Gate & Visitor Center	251	0.009	0.012	255
	2029–2030 Total	**1,578**	**0.057**	**0.123**	**1,615**
	PSD Threshold (mton/year)				**68,039**
2025–2036	State Annual GHG Emissions	2,879,913	3,206	268	2,883,387
2025–2036	U.S. Annual GHG Emissions	5,136,454,179	25,626,912	1,500,708	5,163,581,798

Source: ACAM (version 5.0.23a), (NOAA, 2022)
Key: CO_2e = carbon dioxide equivalents; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; mton/yr = metric tons per year; GHG = greenhouse gas; DISA = Defense Information System Agency; NCR = National Capital Region; CDC = Child Development Center; MDS = Medical Squadron. Conversion factors for CO_2e are different for each greenhouse gas. CO_2 = 1, CH_4 = 25, and N_2O = 298.

Table 3-10: Alternative 2 Operational GHG Emissions

Project	CO_2 (mton/yr)	CH_4 (mton/yr)	N_2O (mton/yr)	CO_2e (mton/yr)
NCR Center of Excellence	6,284	0.192	0.103	6,309
South Gate and Visitor Center	311	0.006	0.006	312
DISA Facility	4,437	0.084	0.084	4,442
Replacement CDC	262	0.008	0.004	263
MDS Clinic	38	0.001	0.001	39
Total Yearly Operational GHG Emissions	**11,631**	**0.286**	**0.203**	**11,664**
PSD Threshold (mton/year)				**68,039**

Source: ACAM (version 5.0.23a), (NOAA, 2022)
Key: CO_2e = carbon dioxide equivalents; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; mton/yr = metric tons per year; GHG = greenhouse gas; NCR = National Capital Region; DISA = Defense Information System Agency; CDC = Child Development Center; MDS = Medical Squadron. Conversion factors for CO_2e are different for each greenhouse gas. CO_2 = 1, CH_4 = 25, and N_2O = 298.

Summary

Criteria pollutant emissions for Alternative 2 are estimated to be well below *de minimis* thresholds and would not interfere with state implementation plans for NAAQS attainment. GHG emissions would be negligible and insignificant in relation to global yearly GHG emissions. There would be no significant air quality effects under Alternative 2.

3.2 Water Resources

The discussion of water resources includes groundwater, surface water, and floodplains. Groundwater is subsurface water that occurs in the saturated zone below the water table and is stored in aquifers. Surface water is any body of water at land's surface and includes natural features such as wetlands, streams, ponds, bays, and oceans. Man-made surface waters include drainage ditches, impoundments, and stormwater catchments. Floodplains are lowland areas adjacent to surface waters that are subject to flooding during periods of high-water discharge. The 100-year floodplain is the area that has a 1 percent chance of inundation by a flood in any given year. The 500-year floodplain is the area that has a 0.2 percent chance of inundation by a flood in any given year.

Wetlands delineations were conducted for JBAB in 2016. The USACE determined there are no jurisdictional wetlands on the installation, and all "wetland" features on JBAB were part of the stormwater system (i.e., engineered BMPs) rather than part of a natural system (U.S. Air Force, 2021). An updated jurisdictional wetland delineation by USACE is planned for JBAB but has not yet been completed. JBAB officials have confirmed that there has been no change in wetland presence since the 2016 delineation, and the jurisdictional determination is expected to remain the same. Therefore, wetlands are not discussed in further detail in this EA.

3.2.1 Regulatory Setting

Washington, DC does not have a coastal zone management program pursuant to the Coastal Zone Management Act. Therefore, coastal zone management is not analyzed in this EA.

The Clean Water Act establishes federal limits, through the National Pollutant Discharge Elimination System (NPDES) program, on the amounts of specific pollutants that can be discharged into surface waters to restore and maintain the chemical, physical, and biological integrity of the water. The NPDES program regulates the discharge of point (i.e., end of pipe) and nonpoint (i.e., stormwater) sources of water pollution. Construction clearing, grading, and excavating activities that disturb one acre or more require a NPDES Construction General Permit for stormwater discharges. Construction or demolition that necessitates an individual permit under NPDES requires preparation of a Stormwater Pollution Prevention Plan that is implemented during construction. EO 11988, *Floodplain Management*, requires federal agencies to avoid to the extent possible the short- and long-term adverse effects associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development unless it is the only practicable alternative. Flood potential of a site is usually determined by the 100-year floodplain, which is defined as the area that has a one percent chance of inundation by a flood event in a given year. The Energy Independence and Security Act (Section 438) establishes stormwater design requirements for Federal development and redevelopment projects. Under this act, federal facility development projects with a footprint greater than 5,000 SF must, "maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow." Further information on the regulatory setting for water resources can be found in Appendix A.

3.2.2 Affected Environment

The following discussion provides a description of the existing water resources at JBAB.

3.2.2.1 Groundwater

JBAB is within the Northern Atlantic Coastal Plain aquifer system, which extends from North Carolina to New York. Groundwater in this system is present in surficial, unconfined aquifers found at an approximate depth of 20 to 30 feet below ground surface. The unconfined aquifer is underlain by a series

of silt and clay confining units. Within Washington, DC, no groundwater resources supply potable industrial or agricultural uses (Masterson, Pope, Nardi, Finkelstein, & McCoy, 2015). Drinking water on JBAB is provided by the DC Water and Sewer Authority, which captures its water supply from the Potomac River several miles upstream of the city.

Groundwater at JBAB is relatively shallow, with the average depth to the water table varying from 5 feet in the northern portion of the installation to 15 feet across the installation. The groundwater flow follows the topography of the installation in an east to west direction toward the Anacostia and Potomac Rivers (JBAB, 2022d). Tidal fluctuations in the Potomac River can affect JBAB groundwater levels in the unconfined aquifer, particularly near the shoreline.

As part of a Navy-wide installation assessment of potential historical releases and use of per- and polyfluoroalkyl substances (PFAS), a Preliminary Assessment of JBAB was conducted, which included an evaluation to determine whether drinking water at JBAB or within one mile of the installation has been impacted by any potential PFAS release areas on the installation. Groundwater is not used as a potable water source in Washington, DC or any of the municipalities within one mile of JBAB and testing of drinking water at these locations did not detect PFAS. Therefore, no complete exposure pathway has been identified for drinking water at JBAB or within one mile of the installation.

3.2.2.2 Surface Water

JBAB is situated at the confluence of the Anacostia River into the Potomac River. Opposite of JBAB, the Washington Ship Channel parallels the Potomac River, emptying into the Anacostia River immediately before its Potomac River confluence. The Potomac River eventually empties into the Chesapeake Bay. All of these water body segments surrounding JBAB have been designated as impaired waters under Section 303(d) of the Clean Water Act, meaning they do not fully support their designated uses. Impairments include biochemical oxygen demand, bacteria, organics, metals, total suspended solids, and oil and grease. Sources of these contaminants include combined sewer overflows, discharges from municipal separate storm sewer systems, unspecified urban pollution, and upstream sources. Washington, DC has collaborated with regional partners to develop watershed-scale Total Maximum Daily Loads for polychlorinated biphenyls (PCBs), total suspended solids, nutrients/biochemical oxygen demand, trash, and various other pollutants in the Anacostia and Potomac Rivers (DOEE, 2023). Combined sewer overflows discharge into both the Anacostia and Potomac Rivers, contributing to poor water quality when heavy rainfall overflows sanitary sewer systems, resulting in untreated sewage entering surface water bodies. Numerous combined sewer overflows discharge into the Anacostia River upstream of the South Capitol Street Bridge (DC Water, 2023).

Other than stormwater management basins, no surface water bodies are present on JBAB. Stormwater on the installation flows generally west toward the rivers. JBAB is covered by four Multi-Sector General Permits for Stormwater Discharges Associated with Industrial Activity—one for each of JBAB's four industrial sectors and associated stormwater outfalls. JBAB maintains and follows a Stormwater Pollution Prevention Plan that identifies stormwater management controls for nonpoint sources of water pollution (U.S. Air Force, 2021).

3.2.2.3 Floodplains

According to FEMA Flood Insurance Rate Maps, much of JBAB is within special flood hazard areas (FEMA, 2010a; FEMA, 2010b). Sea level rise is predicted along the entire existing earthen embankment and sea wall system that forms the western perimeter of the installation (JBAB, 2023a). The northern portion of JBAB and areas adjacent to the Anacostia and Potomac Rivers are particularly vulnerable to predicted sea level rise and flooding. A small increase in sea level, even one foot, would place parts of the region under water (NOAA, 2024). A few of the proposed project sites would be located within the 100-

year floodplain (also referred to as an area with a 1 percent annual risk of flooding). Most project sites would be located partially or entirely within the 500-year floodplain (also referred to as an area with a 0.2 percent annual risk of flooding). Flooding at JBAB is caused by the Anacostia and Potomac Rivers, which are both subject to freshwater flows coming downstream, as well as tidal influences coming upstream from the estuarine Potomac River. Flooding storm surges at the installation are primarily caused by hurricanes and major storm tidal flooding.

Approximately 3.3 miles of JBAB's shoreline along the Anacostia and Potomac Rivers are controlled by a FRMS/levee, and embankments along the southern shoreline of JBAB are lined with riprap (U.S. Air Force, 2021). Sections of the FRMS/levee wall have deteriorated over time such that flood control is impaired and the USACE decertified the FRMS/levee in 2007, resulting in the current floodplain status on the installation. An EIS is underway to reconstruct the FRMS/levee to increase flood protection on JBAB. Once the FRMS/levee is repaired and recertified, FEMA would update the floodplain designations on the installation. However, current FEMA designations of the 100- and 500-year floodplain, shown on Figure 3-1 and Figure 3-2, are used as the basis for planning for the Proposed Action and for the analysis in this EA.

3.2.3 Environmental Consequences

This section analyzes the potential effects on groundwater, surface water, and floodplains. Since there are no jurisdictional wetlands present on JBAB, wetlands are not included in the analysis of environmental consequences. Effects were evaluated in terms of degree, duration, and proximity to water resources, analyzing potential sediment, contaminant, and hydrogeologic effects, and identifying any effects that could result in regulatory violations. Groundwater analysis focuses on the potential effects on the quality, quantity, and accessibility of the water. Surface water quality considers the potential effects that may change the water quality, including both improvements and degradation to current water quality. The analysis of floodplains considers whether new construction is proposed within a floodplain (and design considerations for structures that are in the floodplain) or may impede the functions of floodplains in conveying floodwaters.

A significant, adverse impact on water resources would alter water quality, hydrology, or aquatic habitat to the degree that the long-term natural functions and values of the resource would be diminished. Significant adverse effects would also exist if the action exceeded federal, state, or local water quality standards; contaminated drinking water supplies; or resulted in noncompliance with EOs related to wetlands or floodplains.

3.2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to existing water resources. Therefore, no significant effects on water resources would occur with implementation of the No Action Alternative.

Figure 3-1: Water Resources in the Vicinity of Alternative 1

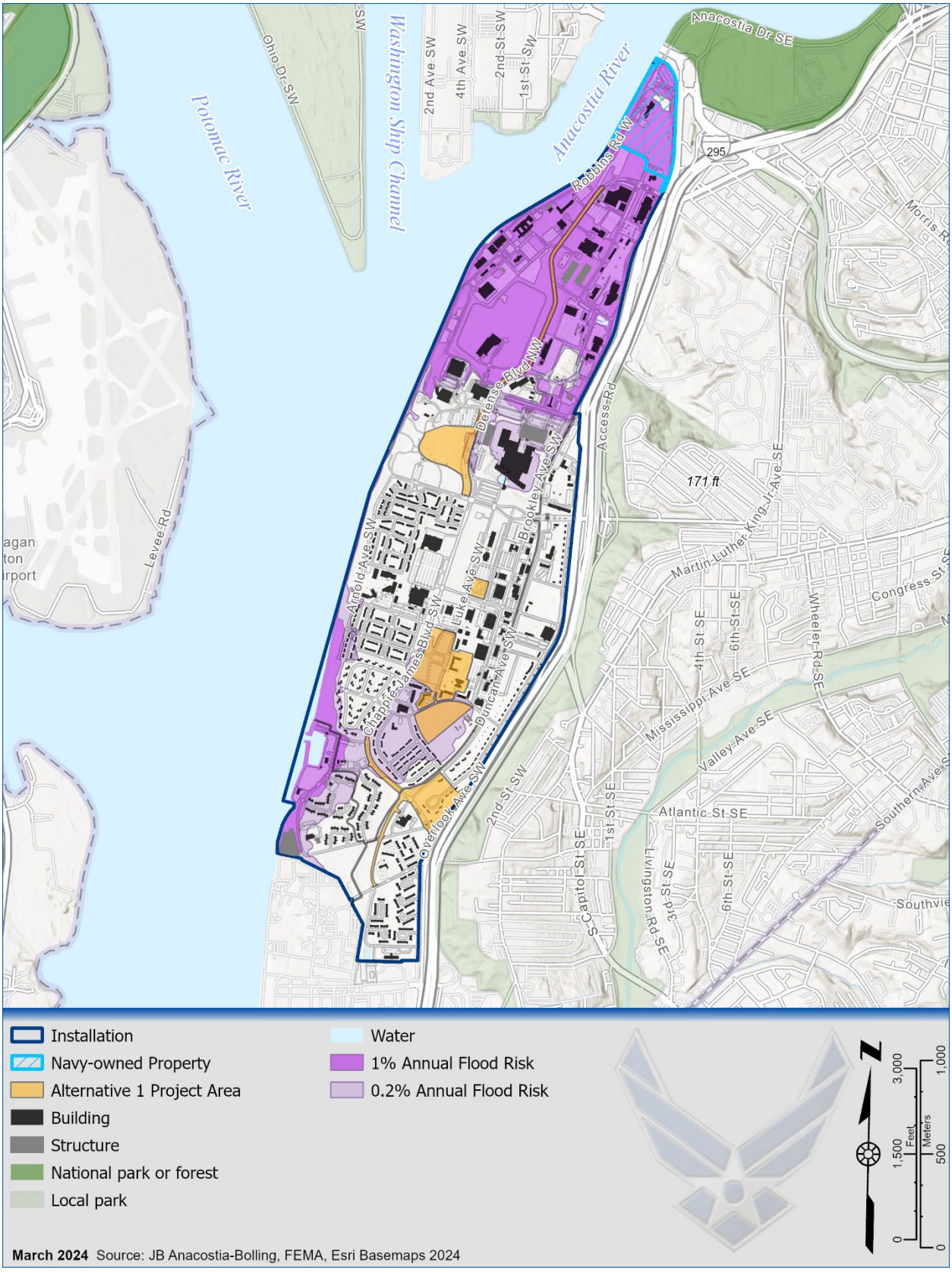
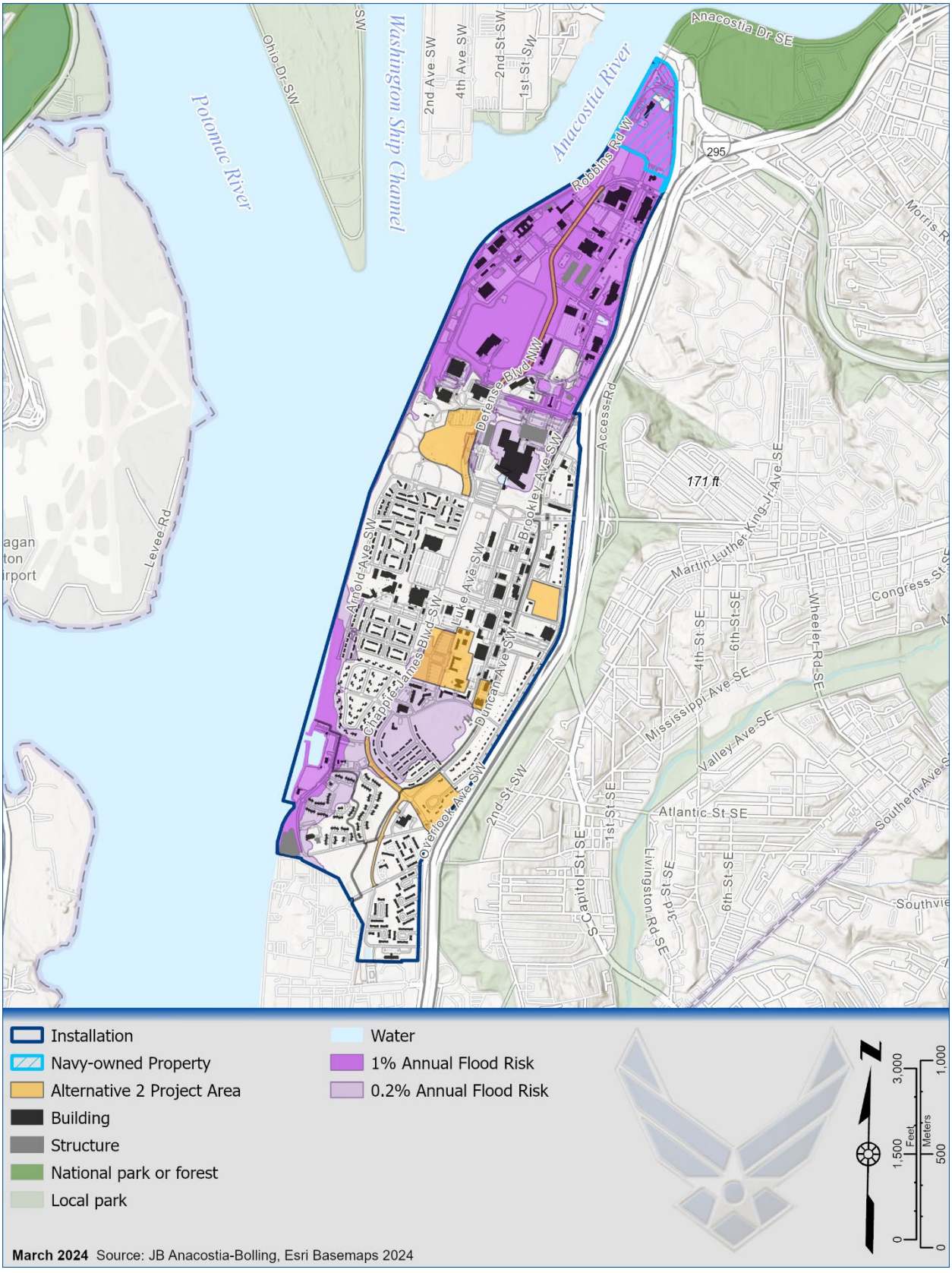


Figure 3-2: Water Resources in the Vicinity of Alternative 2



3.2.3.2 Alternative 1: Implement IDP Five-Year Projects

Groundwater

Construction of the proposed projects would not involve withdrawals from or discharges to surface water bodies or groundwater. Groundwater is potentially present at shallow depths at a few of the Alternative 1 sites, and construction would likely require dewatering for below-grade construction components. Dewatering involves pumping groundwater from the construction site, lasting only during below-grade construction activities. If required, dewatering would temporarily drawdown groundwater levels at or immediately surrounding the construction site. Groundwater would be expected to resume to normal levels once dewatering ceases. Since the surficial aquifer is not used for potable consumption, there would be no adverse effect on groundwater as a water source. A geotechnical report would be prepared for each project site that would identify and address site-specific limitations associated with the underlying groundwater and soil properties, including site-specific depth to water. Detailed plans for dewatering and discharge would be developed as necessary during the project design and permitting phase, and effects on groundwater resources would be minor.

The Project 5 (Reversible Travel Lane on Defense Blvd.) site is located near a suspected PFAS release area on JBAB, and the groundwater is potentially contaminated with PFAS (NAVFAC Washington, 2022). Dewatering for this project, if required, would be handled according to applicable environmental compliance regulations and the DAF memorandum *Best Management Practices for Addressing Contaminated Soils on Military Construction and Facilities Sustainment, Restoration, and Modernization Projects* (DAF, 2025). Early communication with the installation Environmental Restoration Program office would determine if contaminated soil could be avoided during project design, which is the DAF's preferred course of action. If PFAS-contaminated soils cannot be avoided, project design would consider ways to minimize dewatering, such as using precast concrete features. DAF recommends, when feasible, treatment of extracted groundwater with a PFAS-tailored sorbent, ion-exchange resin, or foam fractionation, depending on concentrations of PFAS, flow rates, and water quality (DAF, 2025). More information on PFAS is included in Section 3.6, *Hazardous Materials and Waste.*

The use of construction equipment also presents a short-term risk for equipment to leak, introducing petroleum, oil, and lubricants (POL) into groundwater or to adjacent surface waters via stormwater runoff. Construction contractors would be required to employ good housekeeping measures to ensure that all equipment is in appropriate working order and that POL are used, stored, and transferred in accordance with JBAB's spill prevention, control, and countermeasures protocols, which would minimize possible adverse effects.

Land would be cleared and graded for construction and stormwater drainage, with an overall increase of impervious surface area. The square footage of impervious surface is not known for all of the proposed projects, but several Alternative 1 projects have estimated footprints from preliminary designs. Project 1 would demolish approximately 309,128 SF of impervious surface. New impervious surface would be added with the implementation of Project 2 (overall construction footprint of approximately 287,256 SF), Project 3 (approximately 289,250 SF), Project 8 (approximately 30,000 SF), and Project 9 (approximately 29,000 SF). The other five projects would also increase pavements, structures, and/or infrastructure on JBAB, increasing the total amount of impervious surface on the installation. Impervious surfaces decrease the area available for precipitation to infiltrate and replenish aquifers. Under Alternative 1, stormwater management and controls would be designed for each project site to ensure that post-development hydrology meets or improves pre-development hydrology, pursuant to the Energy Independence and Security Act (Section 438), through low-impact development and the use of green infrastructure. The Alternative 1 designs would include a mix of structural and nonstructural stormwater BMPs designed in accordance with the DOEE's Stormwater Management Guidebook. This Guidebook requires each site to achieve a stormwater retention volume equivalent to 50 percent of the site drainage area. The proposed

projects would tie into the existing JBAB storm sewer system to manage stormwater that exceeds the DOEE stormwater retention volume requirements. Existing and proposed storm drainage would connect to pump houses managed by JBAB before being discharged.

Surface Water

There is no surface water present at the Alternative 1 project sites. Construction activities have the potential to indirectly affect surface water quality on nearby surface waters. JBAB stormwater is conveyed via stormwater infrastructure through permitted outfalls into the Potomac and Anacostia Rivers. Both rivers are listed under Section 303(d) of the Clean Water Act as impaired. If sediment from construction were to leave the construction sites, the topography of the land and proximity to the Anacostia River could exacerbate already poor water quality conditions in the area. Individual projects under Alternative 1 that disturb more than one acre require a General Construction Permit under NPDES. An erosion and sediment control plan and stormwater management plan would be required as part of the NPDES and building permit process, minimizing adverse effects on the Anacostia River and Potomac River. Adverse effects on the local surface waters would be temporary and minor.

Floodplains

EO 11988 requires federal agencies to avoid to the extent possible the long- and short-term adverse effects associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. New construction within the floodplain must meet regulatory criteria to offset the effects of minor and major flooding. Much of the land proposed for development under Alternative 1 is currently within the 100-year or 500-year floodplain. Specifically, Project 5 and a portion of Projects 4 and 6 would occur within the 100-year floodplain. Projects 1, 2, 3, 6, 7, 8, and 10 are all located partially within the 500-year floodplain. As mentioned in Section 3.2.2.3, the installation's urban setting, low-lying elevation, relatively flat topography, and situation at the confluence of the Anacostia River and Washington Ship Channel into the Potomac River present high potential for flash flooding as well as storm surge and tidal inundation during extreme weather events. Also, as discussed in Section 3.2.2.3, a FRMS/levee is currently in place along the Anacostia River, but sections of the system have deteriorated such that flood control is impaired, and the FRMS/levee has not been recertified by USACE. While the DAF is planning to develop designs and conduct an EIS to reconstruct the FRMS/levee to a level that would provide increased flood control; the level of flood control provided cannot be assumed until these structures are recertified by USACE.

EO 11988 states that, if the floodplain cannot be avoided, "accepted floodproofing and other flood protection measures shall be applied to new construction or rehabilitation. To achieve flood protection, agencies shall, whenever practicable, elevate structures above base flood level rather than filling in land" (Section 3(b)). If the DAF selects Alternative 1, designs for the projects could mitigate flood risks by constructing the facilities and any flood-susceptible utilities a minimum of three feet above the 100-year flood level. Alternatively, the DAF could consider seeking an exemption to comply with the floodplain EO's, Directive-type Memorandum (DTM) 22-003, and UFC 3-201-01 (2018), justified by the future FRMS/levee project which, when implemented, would mitigate the Alternative 1 sites out of the floodplain.

In the long term, the proposed additional pavement and facilities would encroach into the floodplain and convert some of the existing pervious area that is available for flood storage into impervious surface. Impervious surfaces can reduce flood-carrying capacity, increase flood height and velocity, and increase flood hazards in surrounding areas (FEMA, 2010c). Thus, the overall vulnerability to flooding at JBAB could increase as a result of Alternative 1, which could be exacerbated by future extreme weather events and sea level rise. However, implementing stormwater BMPs would ensure the post-development hydrology meets or improves pre-development hydrology. This would reduce localized flooding during

heavy rains associated with new impervious surfaces. In the event of a major flood, facilities, roadways, and other infrastructure are vulnerable to damage, ranging from minor to extensive. Mitigation measures would be determined in the design phase of each flood-susceptible project and could include elevating buildings, implementing floodproofing measures, or other measures. Proposed project designs would include stormwater management infrastructure to current code, improving flood water retention during storm events as compared to existing conditions. Most of the project sites are located within the 100-year or 500-year floodplain; however, construction would not result in changes to these existing floodplain categorizations as adverse effects to the floodplain would be minor.

Summary

Effects on water resources under Alternative 1 would be minor. Short-term, minor effects on groundwater, surface water, and floodplains from construction activities would occur. Long-term, minor effects on groundwater, surface water, and floodplains from increased impervious surfaces would occur. There would be no effects on wetlands. Under Alternative 1, no significant effects on water resources would occur.

3.2.3.3 Alternative 2: Alternative Siting for IDP Five-Year Projects

The area of disturbance and increase in impervious surface area would be similar to those under Alternative 1, but slightly less. Under Alternative 2, a new MDS Clinic with a 29,000 SF building footprint would not be constructed. Instead, a 10,000 SF one-story addition would be constructed at Building 17 and Building 1300 would be renovated. The proposed project designs for Alternative 2 include the same stormwater management techniques as Alternative 1, with a few placed in varying locations in slightly different configurations.

Under Alternative 2, the proposed projects would largely be located within the installation floodplains, the same as described under Alternative 1. Project 9 (the replacement CDC) would not be within the 500-year floodplain. Similar to Alternative 1, designs for the facilities could mitigate flood risks by constructing above the floodplain or seeking an exemption to the requirements of the EOs, DTM-22-003 (Flood Hazard Area Management for DoD Installations), and DoD UFC 3-201-01 (2018).

Summary

Overall, under Alternative 2, short- and long-term effects on water resources would be similar to what is expected under Alternative 1. However, since ground disturbance during construction and the addition of impervious surfaces would be slightly less, the effect to groundwater, surface water, and floodplains would also be slightly less. The intensity would still be considered the same (minor). Under Alternative 2, no significant effects on water resources would occur.

3.3 Biological Resources

For purposes of this discussion, the study area includes the entirety of JBAB. As discussed below, biological resources are divided into three main categories: (1) vegetation, (2) wildlife, and (3) threatened, endangered, and special-status species. The Proposed Action does not include activities within the Potomac River or other waterways and would not affect aquatic vegetation or wildlife; therefore, they are not analyzed further in this EA.

3.3.1 Regulatory Setting

Special-status species, for the purposes of this assessment, are those species listed as threatened or endangered under the Endangered Species Act of 1973 (ESA) and species afforded federal protection under the Migratory Bird Treaty Act (MBTA) of 1918 or the Bald and Golden Eagle Protection Act of 1940 (BGEPA).

The Comprehensive Plan for the National Capital's Federal Environment Element's Tree Replacement Policy and Submission Guidelines (called Federal Comprehensive Plan hereinafter) directs the federal government to preserve and protect existing trees, especially healthy native (non-invasive) trees and to account for existing trees early in the planning process to maximize preservation. In addition, trees 100 inches or greater in circumference (called Heritage Trees) may not be removed unless specific criteria are met. All possible considerations should be given to protect trees in critical areas for the health of the Chesapeake Bay or Potomac River watersheds. The Federal Comprehensive Plan states that when tree transplanting is not feasible and tree removal is necessary, trees should be replaced following specific procedures using an arborist's consultation. Guidelines require that a Tree Preservation and Replacement Plan be submitted with master plans and individual projects (NCPC, 2020a; NCPC, 2020b; DC Government, 2016; NCPC, 2024a; NCPC, 2016).

Migratory birds exist at JBAB, which are protected under the MBTA amended in 2004 (U.S. Air Force, 2021; USFWS, 2024a). The MBTA's intention is to ensure the sustainability of populations of protected native—to the U.S. or U.S. territories—migratory bird species (USFWS, 2024a). JBAB is located within the Atlantic Flyway, one of four major flight routes used by migratory birds in North America (U.S. Air Force, 2021).

Further regulatory setting details for biological resources can be found in Appendix A of this EA.

3.3.2 Affected Environment

The following discussions describe the existing biological resources within the study area.

3.3.2.1 Vegetation

According to the Integrated Natural Resources Management Plan (INRMP) at JBAB, more than 373 acres of JBAB contain disturbed unvegetated land, which is developed with buildings, roadways, parking areas, sidewalks, and other impermeable surfaces. The other 593 acres of JBAB are human-dominated type vegetation consisting of primarily turf grasses, open grassy fields, recreational fields, trees, and shrubs. There are no forested areas within JBAB; however, there are some scattered individual trees and small stands of trees planted for landscaping purposes. At JBAB, trees often exist along streets and scattered within parking lots and lawns. Landscaping plants include both native and introduced species. At JBAB, 18 invasive plant species have been observed (U.S. Air Force, 2021).

In September of 2023, the Center for the Environmental Management of Military Lands at Colorado State University completed a Vegetation Classification and Mapping for JBAB (CEMML, 2023). This plan mapped natural communities on the installation and differentiated between the natural, relatively unmanaged vegetation communities and the predominantly managed vegetation areas that are present. The effort mapped 17.4 acres of natural communities on JBAB consisting of ruderal forest alliance (0.9 acres; characterized as small, previously disturbed areas that have become naturalized), tidal shrub swamp association (2.5 acres; located along the Potomac River near the marina), ruderal grassland association (13.5 acres; four locations on JBAB characterized as tall grasslands not maintained as frequently as other lawn areas), and deep marsh alliance (0.5 acres; found on low-lying depressions that hold water for longer periods of time).

In December of 2015, Naval Facilities Engineering Systems Command (NAVFAC) completed an Urban Forest Inventory and Management Plan for JBAB. This plan inventoried 1,997 individual trees, of which 37 species were native species and 18 were introduced species. Some Heritage Trees, which are trees 100 inches or greater in circumference or 31.85 inches in diameter, are present at JBAB (NAVFAC Washington, 2015; NCPC, 2020b).

In floodplains, vegetation can serve an important role by increasing flood storage capacity. Vegetation removal or impervious surfaces can reduce flood-carrying capacity, increase flood height and velocity, and increase flood hazards in surrounding areas (FEMA, 2010c). As discussed in detail in Section 3.2.2.3, *Floodplains*, much of JBAB is within special flood hazard areas. Flooding at JBAB could be exacerbated by future extreme weather events or sea level rise.

3.3.2.2 Wildlife

Past development activities at JBAB have dramatically altered native wildlife and their habitat. JBAB does not contain forested or other high-quality wildlife habitat. Wildlife at JBAB is limited to species that are common and adapted to living in an urban environment, such as small rodents, groundhogs, raccoons, squirrels, rabbits, opossums, red foxes, bats, crows, doves, seagulls, sparrows, starlings, and other bird species. JBAB likely contains frogs, toads, snakes, and turtles that are generally adapted to upland urban landscapes. A complete list of wildlife species likely to exist at JBAB can be found in Appendix E of the INRMP (U.S. Air Force, 2021).

Obtained from the USFWS' Information for Planning and Consultation (IPaC) tool, the USFWS identified 19 migratory bird species with potential to occur within the study area (Table 3-11). As shown in Table 3-11, many of the birds are considered Birds of Conservation Concern. Other birds listed warrant attention for potential susceptibilities in offshore areas from certain types of development or activities. Note that the IPaC does not list every migratory bird that may be present in the study area, nor is it a guarantee that every listed bird will be found in the study area (USFWS, 2024e).

Table 3-11: USFWS-Identified Migratory Birds with Potential to Occur in the Study Area

Common Name	Scientific Name	Bird of Conservation Concern?	Potential Breeding in the Study Areas?
American oystercatcher	*Haematopus palliates*	Yes	Breeds Apr 15 to Aug 31
Bald eagle	*Haliaeetus leucocephalus*	No	Breeds Oct 15 to Aug 31
Black-billed cuckoo	*Coccyzus erythropthalmus*	Yes	Breeds May 15 to Oct 10
Bobolink	*Dolichonyx oryzivorus*	Yes	Breeds May 20 to Jul 31
Canada warbler	*Cardellina canadensis*	Yes	Breeds May 20 to Aug 10
Chimney swift	*Chaetura pelagica*	Yes	Breeds Mar 15 to Aug 25
Eastern whip-poor-will	*Antrostomus vociferus*	Yes	Breeds May 1 to Aug 20
Golden eagle	*Aquila chrysaetos*	No	Breeds elsewhere
Hudsonian godwit	*Limosa haemastica*	Yes	Breeds elsewhere
King rail	*Rallus elegans*	Yes	Breeds May 1 to Sep 5
Lesser yellowlegs	*Tringa flavipes*	Yes	Breeds elsewhere
Pectoral sandpiper	*Calidris melanotos*	Yes	Breeds elsewhere
Prothonotary warbler	*Protonotaria citrea*	Yes	Breeds Apr 1 to Jul 31
Red-headed woodpecker	*Melanerpes erythrocephalus*	Yes	Breeds May 10 to Sep 10
Ruddy turnstone	*Arenaria interpres morinella*	Yes	Breeds elsewhere
Rusty blackbird	*Euphagus carolinus*	Yes	Breeds elsewhere
Short-billed dowitcher	*Limnodromus griseus*	Yes	Breeds elsewhere
Willet	*Tringa semipalmata*	Yes	Breeds Apr 20 to Aug 5
Wood thrush	*Hylocichla mustelina*	Yes	Breeds May 10 to Aug 31

Source: (USFWS, 2024e)

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos)* are protected under the MBTA and the BGEPA. Bald eagles are frequently observed at JBAB, but there are no known bald eagle

nests on the installation (U.S. Air Force, 2021). Golden eagles have not been documented at JBAB, and they breed elsewhere (U.S. Air Force, 2021; USFWS, 2024e).

3.3.2.3 Threatened, Endangered, and Special-Status Species

Since JBAB is a highly developed urban area, there is very limited suitable habitat for threatened, endangered, or special-status species (U.S. Air Force, 2021). According to the USFWS IPaC database (retrieved December 20, 2024, and included in Appendix B), there are three potentially occurring species, listed under the ESA within the study area (see Table 3-12). These species include the northern long-eared bat, tricolored bat, and monarch butterfly.

Table 3-12: Threatened, Endangered, and Special-Status Species Identified by the USFWS with Potential to Occur in the Study Area

Species Name	Federal Listing Status	Documented at JBAB?	Critical Habitat Present at JBAB?
Northern Long-eared Bat *(Myotis septentrionalis)*	Endangered	No	No
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	Yes	No
Monarch Butterfly *(Danaus plexippus)*	Proposed Threatened	Yes	N/A

Source: (U.S. Air Force, 2021; USFWS, 2024e)

In addition to the USFWS, DAF consulted with the Wildlife Management Branch within the DOEE Fisheries and Wildlife Division to obtain more information on species of greatest conservation need (SGCN) that may potentially exist within the study area. The DOEE responded (dated July 9, 2024 and included in Appendix B) that the SGCN shown in Table 3-13 may be present within or around the study area.

At JBAB, passive acoustical monitoring bat surveys were conducted in 2016 and 2019. The federally endangered northern long-eared bat (NLEB) was not observed at JBAB during these bat surveys (NAVFAC Washington, 2017; NAVFAC Washington, 2020b). The NLEB roosts alone or in colonies preferably underneath bark, in tree cavities, or in crevices of both live and dead trees. Sometimes they roost in manmade structures. The NLEB often forages in forests or over water surfaces immediately surrounding roost sites (U.S. Air Force, 2021; USFWS, 2024b). NLEBs prefer intact mixed-type forests containing only small gaps, such as forest trails, small roads, or creeks. Small gaps are used by NLEBs for foraging and commuting. Suitable individual trees for the NLEB may exist on JBAB in those areas 1,000 feet from the Shepherd Parkway forested habitat (USFWS, 2024e). DOEE also noted this area "within the adjoining area of Shepherd Parkway" as having the potential for "threatened or endangered bats" (DOEE, 2024a). Section 4(d) of the ESA, a final USFWS rule, provides time of year restrictions during the NLEB active breeding season (from June 1–July 31), which is necessary for NLEB conservation (USFWS, 2016; U.S. Air Force, 2021).

The proposed federally endangered tricolored bat has been identified at JBAB. However, there was only one call file collected from the tricolored bat during the survey, which suggests limited usage of JBAB by tricolored bats (NAVFAC Washington, 2020b). Tricolored bats would likely only utilize JBAB during the summer, as they would likely hibernate during the winter in caves or abandoned mines. Tricolored bats often feed over forests, wetlands, and open water. During the summer, tricolored bats are found in forested habitats where they prefer roosting in tree foliage. Occasionally, tricolored bats may be found in

manmade structures (USFWS, 2024b; USFWS, 2024c). Although the study area does not contain suitable forested habitat or wetlands for the tricolored bat, it does contain sparsely scattered trees near the Potomac River. Although unlikely, the tricolored bat could be found within trees existing along the Potomac River at JBAB. Similar to the NLEB, suitable individual trees for the tricolored bat may exist on JBAB in those areas 1,000 feet from the Shepherd Parkway forested habitat.

Table 3-13: SGCN Identified by the DOEE with Potential to Occur in the Study Area

SGCN Species Name	Scientific Name
Northern Red-bellied Cooter	*(Pseudemys rubriventris)*
Alewife Floater	(*Utterbakiana implicata*)
Painted Turtle	(*Chrysemys picta*)
Eastern Box Turtle	(*Terrapene carolina carolina*)
Eastern Cottontail	(*Sylvilagus floridanus*)
Dekay's Brownsnake	(*Storeria dekayi*)
Wood Duck	(*Aix sponsa*)
Brown Thrasher	(*Toxostoma rufum*)
Black-and-white Warbler	(*Mniotilta varia*)
Virginia Opossum	(*Didelphis virginiana*)
Eastern Chipmunk	(*Tamias striatus*)
Gray Treefrog	(*Hyla versicolor*)
Marsh Wren	(*Cistothorus palustris*)

Sources: (DOEE, 2024a)
Note: The DOEE also noted the potential presence of the monarch butterfly, tricolored bat, and the northern long-eared bat, which are not listed in this table since they are listed in Table 3-11.

DOEE only mentioned the tricolored bat and NLEB in their response letter. However, the DOEE did acknowledge that "additional SGCN species may be present" and acknowledged the "potential presence of threatened or endangered bats within the adjoining area of Shepherd Parkway" (DOEE, 2024c). Other DC-listed SGCN bat species have been observed at JBAB, which include the silver-haired bat, eastern red bat, evening bat, big brown bat, and hoary bat (NAVFAC Washington, 2017; DOEE, 2024b). Silver-haired bats prefer to roost in forests under tree bark near bodies of water. Eastern red bats roost solitarily on low tree branches and forage on insects around forest edges, in clearings, or around streetlights. Eastern red bats migrate in the fall. Evening bats roost in tree hollows, under peeling bark, and inside buildings. Evening bats migrate south in the fall. Big brown bats typically roost under loose bark and within small tree cavities. Big brown bats are highly adaptable within urban environments and have been known to roost in manmade structures. Hoary bats are rarely seen, because they are not attracted to manmade structures and remain well-hidden in tree foliage during the day (DOEE, 2024b). Although the study area does not contain suitable forested habitat for these DC-listed SGCN bat species, it does contain sparsely scattered trees and manmade structures near the Potomac River. SGCN bat species could be found within trees or manmade structures existing along the Potomac River, the probable primary foraging location. In addition, trees near clearings/fields at JBAB may be suitable for eastern red bats.

The monarch butterfly and the American bumble bee have been observed at JBAB. The monarch butterfly is currently proposed for listing as threatened under the ESA, and the American bumble bee is currently under review for federal listing. The 2019 pollinator survey documented three milkweed patches on the installation. One location includes a dense patch of milkweed observed in a small field, previously a baseball field, located north of the study area on Navy-owned property. The second patch of milkweed is

located near the intersection of Angell Street SW and Tyndall Street SW. The third milkweed patch is located immediately south of Magazine Road SW (NAVFAC Washington, 2020a; USFWS, 2021).

Historical range records indicate that the federally listed endangered rusty patched bumble bee included DC. However, the rusty patched bumble bee was not observed during the 2019 pollinator survey at JBAB, and it was not identified by the USFWS IPaC. No population is known to exist nearby (U.S. Air Force, 2021; USFWS, 2024e). None of the other butterfly species observed during the 2019 JBAB pollinator survey are listed as SGCN (DOEE, 2024c).

Two species that are currently under review for federal ESA listing, the wood turtle and the northern red-bellied cooter, would not likely occur at JBAB due to the lack of habitat (water) for these species.

3.3.3 Environmental Consequences

3.3.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and there would be no change to existing biological resources. Therefore, no significant effects on biological resources would occur.

3.3.3.2 Alternative 1: Implement IDP Five-Year Projects

Vegetation

Past development at JBAB has dramatically altered native vegetation. Under Alternative 1, some individual trees and grassed areas would be removed. However, trees would be preserved to the extent practicable for carbon sequestration and to retain their flood storage capabilities. Temporary fencing would be placed around, or beyond, the canopy drip line of those trees that would be protected. This measure would protect the trees' roots from soil compaction during construction. Any trees removed would be replaced using the NCPC Tree Preservation and Replacement Resource Guide for tree replacement procedures, JBAB's IDP, and IFS. Under Alternative 1, potential Heritage Trees (100 inches or greater in circumference) are present at several project sites, as shown in Table 3-14. The trees included in this table were measured to be at least 94 inches in circumference during the last JBAB Urban Forestry Inventory; these trees may have grown to reach Heritage Tree size since then and the JBAB Natural Resources Manager would need to determine the size during the project planning phases.

Table 3-14: Heritage Trees on or Near Alternative 1 Project Sites

Alternative 1 Project	Number of Potential Heritage Trees Present*
Project 2, DISA Facility	2
Project 10, South Gate and Visitor Center	3

Note: * Number of potential heritage trees measuring 94 inches in circumference or larger during the last JBAB Urban Forestry Inventory located within 20 feet of a proposed project boundary, to account for potential effects on tree root systems or canopy.

Site design planning would avoid the removal or disturbance of Heritage Trees, where feasible. Should the DAF determine that removal of Heritage Trees is necessary, the DAF would coordinate with NCPC on site design and a Tree Preservation and Replacement Plan. The DAF would also complete NEPA documentation if determined necessary.

Proposed landscaped areas would be planted with native grasses, sedges, or seed mix that includes wildflowers for pollinator species. Landscaping with lower maintenance native plants can reduce the use of fertilizer and irrigation, reduce mowing, and benefit pollinator species. Invasive species would be

managed, and an Integrated Pest Management Program would be implemented to control the use of fertilizers and herbicides. For the reasons discussed above, direct effects to vegetation would be minor under Alternative 1. It is anticipated that tree removal would result in a minor reduction in local carbon sequestration abilities and flood storage capacity.

The addition of impervious surfaces would increase stormwater runoff, which could indirectly affect adjacent vegetation. BMPs would be implemented during and after construction to manage additional stormwater runoff. Considering the existing urbanized nature of JBAB and the implementation of BMPs, this indirect effect on vegetation would be negligible.

Wildlife

Although not abundant, most of the more mobile wildlife on JBAB (i.e., raccoons, red foxes, adult birds) would be able to flee from construction disturbance. Smaller and less mobile wildlife (i.e., rodents, reptiles, young birds) may not be able to flee. Under Alternative 1, there would be direct, short-term effects to wildlife from construction noise, displacement, and mortality; however, since wildlife at JBAB is extremely limited in abundance and species diversity, this effect would be negligible.

There would be no long-term effect on wildlife habitat due to habitat loss, since the human-dominated land use of JBAB does not contain forested or other high-quality habitat. Adverse effects to those migratory birds potentially breeding in the study area (see Table 3-11) would likely not occur since only some individual trees would be removed. In addition, potentially breeding migratory birds could be monitored during DOEE-recommended biological monitoring, when practicable (see the last paragraph under "Threatened, Endangered, and Special-Status Species" of this EA). Trees would be replaced with similar species where feasible.

There are no bald eagle nests on JBAB. Golden eagles have not been documented at JBAB, nor do they nest in this region. Thus, no adverse effects would occur to bald or golden eagles.

Threatened, Endangered, and Special-Status Species

As part of the proposed IDP projects, tree removal is not anticipated along the Potomac River, which is a potential foraging location for other JBAB-identified SGCN bat species. Individual trees near clearings/fields at JBAB may be suitable for the eastern red bat and possibly other opportunistic JBAB-identified bats. Tree removal in these locations could affect these bat species. By implementing the time-of-year restrictions for the NLEB and tricolored bat, other bat species would likely benefit. Therefore, there would likely be no adverse effects on any bat species.

The IPaC Determination Key tool resulted in a "may affect" determination for NLEB and the tricolored bat. Appendix B contains this official USFWS concurrence letter generated from the IPaC Determination Key. A "may affect" determination requires further consultation with the local Ecological Services Field Office (USFWS, 2024d). Under Alternative 1, tree clearing would be avoided during the NLEB pup season, June 1–July 31. DAF expects that the tricolored bat will be listed under the ESA during the 5-year implementation period. At that time, additional time of year restrictions may be required during the tricolored bat active season (April 1–September 30); DAF would adhere to future USFWS requirements if applicable. The NLEB has not been detected at JBAB during surveys, and the tricolored bat has very low occurrence at JBAB. Preferred NLEB and tricolored bat forested habitat does not exist at the highly-developed JBAB. Individual and scattered trees on JBAB located approximately 1,000 feet from the potentially suitable Shepherd Parkway forested habitat are separated by a large and impeding gap (I-295). For these reasons, DAF believes that a "may affect, not likely to adversely affect" is more accurate. During the Draft EA review period, the USFWS Field Office concurred with this determination for the NLEB and the tricolored bat, and no further action is required (USFWS, 2024d). If the tricolored bat is

listed as endangered prior to completion of the proposed IDP projects, the DAF would coordinate with the USFWS Field Office again.

Existing pollinator habitat is limited due to the urban disturbed nature of JBAB. Within the Alternative 1 study area, there is a patch of milkweed within the Project 8 site near the intersection of Angell Street SW and Tyndall Street SW, which could be affected. Additionally, the milkweed patch just south of Magazine Road SW could be affected from Project 6. To minimize impacts associated with the removal of these milkweed patches, the DAF could avoid clearing milkweed from May 15–Sept 30, when monarch caterpillars may be present. Mowing ahead of the growing season would avoid disruption, while coupling milkweed planting on other locations on-base where construction is not planned. No effect is anticipated to the northernmost milkweed patch on the Navy-owned property. Based on coordination with the USFWS Field Office, Alternative 1 may affect, but is not likely to adversely affect the monarch butterfly and no further action is required. If the monarch butterfly is listed as threatened prior to completion of the proposed IDP projects, the DAF would coordinate with the USFWS Field Office again.

As listed in Table 3-13, DOEE identified additional potentially occurring SGCN species. The DOEE recommends that the DAF consult with DOEE biologists, if available, to plan for biological monitoring for SGCN species and potentially breeding migratory birds. Since JBAB does not contain wetland or stream habitat, biological monitoring would not be needed for those SGCN species typically found in wetland habitats such as the northern red-bellied cooter and wood duck. Biological monitoring would occur as feasible. DOEE also recommended bat time-of-year restrictions for some of the IDP projects, in particular Project 8 for Alternative 2 (North JBAB) and Project 10 for Alternatives 1 and 2 (South JBAB) (DOEE, 2024a). As previously discussed, time-of-year restrictions for the NLEB (June 1–July 31), the tricolored bat (April 1–September 30), and for the monarch butterfly's milkweed (May 15–Sept 30) may apply, depending on the project requirements (such as tree removal) and determined during individual project design and schedule processes. With these measures, Alternative 1 would likely have no adverse effect on the potentially occurring SGCN species and migratory birds.

Summary

Under Alternative 1, direct effects on vegetation would be minor and indirect effects on adjacent vegetation would be negligible. Tree removal would result in a minor reduction in local carbon sequestration abilities and flood storage capacity. There would be direct, short-term, negligible effects to wildlife from construction noise, displacement, and mortality. There would be no long-term effects to wildlife habitat. There would be no effects to bald eagles. There would be no significant effects on threatened or endangered species. DAF coordinated with USFWS on these conclusions. Because consultation would occur with DOEE biologists when practicable and time-of-year restrictions would be followed, Alternative 1 would likely have no adverse effects on the potentially occurring SGCN species (including bats) or migratory birds. Under Alternative 1, no significant effects on biological resources would occur.

3.3.3.3 Alternative 2: Alternative Siting for IDP Five-Year Projects

Under Alternative 2, effects to biological resources would be similar to those under Alternative 1. However, under Alternative 2, only one milkweed patch, just south of Magazine Road SW, could be affected from Project 6. The potential Heritage Trees at Alternative 2 project sites is shown in Table 3-15. Avoidance and minimization measures described under Alternative 1 would also occur under Alternative 2. There would be no impact to the northern most milkweed patch or the milkweed located near the intersection of Angell St SW and Tyndall St SW.

Table 3-15: Heritage Trees on or Near Alternative 2 Project Sites

Alternative 1 Project	Number of Potential Heritage Trees Present*
Project 2, NCR Center of Excellence	3
Project 8, Replacement CDC	4
Project 10, South Gate and Visitor Center	3

Note: * Number of potential heritage trees measuring 94 inches in circumference or larger during the last JBAB Urban Forestry Inventory located within 20 feet of a proposed project boundary, to account for potential effects on tree root systems or canopy.

Summary

Under Alternative 2, effects would be similar to those under Alternative 1, but less effects to milkweed on JBAB. No significant effects on biological resources would occur.

3.4 Cultural Resources

This discussion of cultural resources includes precontact and historic archaeological sites; historic buildings, structures, and districts; and physical entities and human-made or natural features important to a culture, a subculture, or a community for traditional, religious, or other reasons. Cultural resources can be divided into three major categories:

- **Archaeological resources** (precontact and historic) are locations where human activity measurably altered the earth or left deposits of physical remains.
- **Architectural resources** include standing buildings, structures, landscapes, and other built-environment resources of historic or aesthetic significance.
- **Traditional cultural places** may include archaeological resources, structures, neighborhoods, prominent topographic features, habitat, plants, animals, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture.

3.4.1 Regulatory Setting

Cultural resources listed in the National Register of Historic Places (NRHP) or eligible for listing in the NRHP are "historic properties" as defined by the National Historic Preservation Act (NHPA). The list was established under the NHPA and is administered by the National Park Service on behalf of the Secretary of the Interior. The NRHP includes properties on public and private land. Properties can be determined eligible for listing in the NRHP by the Secretary of the Interior or by a federal agency official with concurrence from the applicable SHPO. An NRHP-eligible property has the same protections as a property listed in the NRHP. Historic properties include archaeological and architectural resources. Additional regulatory setting details for cultural resources are provided in Appendix A of this EA.

3.4.2 Affected Environment

The area of potential effect (APE) for cultural resources is the geographic area or areas within which an undertaking (i.e., project, activity, program, or practice) may cause changes in the character or use of any historic properties present. The APE is influenced by the scale and nature of the undertaking and may be different for various kinds of effects caused by the undertaking. For this EA, the proposed projects are spread throughout the installation. The APE for the built environment is defined for each individual project as the project site with a buffer to include areas where construction and future uses would be visible. The buffer to analyze visual effects would be relative to the size and scale of the undertaking. The

APE for archaeological resources varies for each individual project and generally consists of the project's construction footprint (area of ground disturbance) and staging areas.

The Naval Air Station (NAS) Anacostia Historic District and the Bolling AFB Historic District, along with their contributing resources and several individually NRHP-eligible resources are within the APE (Figure 3-3 through Figure 3-6). The NAS Anacostia Historic District contains 17 resources: 16 contributing resources and 1 non-contributing object. The Bolling AFB Historic District contains 76 buildings: 65 contributing resources, 7 non-contributing resources, and 4 not evaluated. Nine individually eligible resources are located on JBAB including Buildings 1, 2, 20, 21, 72, 92, 93, 168, and 169. The evaluation of other buildings for NRHP-eligibility is ongoing; unevaluated buildings would be surveyed and evaluated as part of individual NHPA Section 106 compliance for the individual projects.

According to the 2020 Integrated Cultural Resources Management Plan (ICRMP), there are 13 archaeological sites at JBAB, four of which are determined either eligible or potentially eligible (Table 3-16). The remaining 9 sites have not been evaluated for the NRHP and are all concentrated in the southern two thirds of JBAB. If any of these sites have the potential to be impacted by a federal action, a Phase II investigation would be undertaken to evaluate its NRHP eligibility. According to an archaeological sites and surveys map in the 2020 ICRMP, all but one of the proposed projects are wholly or partially within archaeological sensitive areas that are recommended for either Phase I or Phase II testing. Project 5 (construction of a reversible travel lane on Defense Boulevard) is the only project that is entirely within an area that has been previously surveyed (JBAB, 2020).

Table 3-16: Archaeological Sites at JBAB (JBAB, 2020)

Site #/Name	Description	NRHP Eligibility
51SW2	Prehistoric site, possible village	Unevaluated
51SW3 (Giesboro Point)	Prehistoric site, possible village; Civil War cavalry camp (Camp Stoneman), and plantation	Unevaluated
51SW4	Prehistoric site, possible village	Unevaluated
51SW5	Native American ossuary site	Unevaluated
51SW6	Prehistoric camp	Unevaluated
51SW7	Prehistoric camp dating to approximately 800–300 BC; 19th Century ceramics and glass recovered	Eligible
51SW12	Prehistoric site, possible village	Unevaluated
51SW22 (JADOC)	Late Archaic and Woodland camp	Eligible
51SW25	19th and early 20th Century farmstead	Unevaluated
51SW26	19th and 20th Century industrial site	Unevaluated
51SW27	Prehistoric and colonial components, 19th and 20th Century farmsteads; World War II-era component	Potentially Eligible
51SW30	Precontact site and colonial era to 20th Century farmstead	Potentially Eligible
51SW31	Precontact camp; World War II-era housing	Not Eligible

In addition to the buildings within the historic districts, a 2020 historic landscape survey (Baynard, 2020) identified a variety of NRHP-eligible cultural landscape features associated with each historic district (Table 3-17). Several contributing landscape features would be affected by one or more of the proposed projects. These features include the railroad and views/vistas associated with the Bolling Historic District.

3.4.3 Environmental Consequences

Analysis of potential effects on cultural resources considers both direct and indirect effects. Direct effects can be the result of physically altering, damaging, or destroying all or part of a resource. Indirect effects include altering characteristics of the surrounding environment that contribute to the importance of the resource; introducing visual, atmospheric, or audible elements that are out of character for the period the resource represents (thereby altering the setting); or neglecting the resource to the extent that it deteriorates or is destroyed.

Table 3-17: NRHP-Contributing Landscape Features at JBAB

Landscape Feature	NAS Anacostia Historic District	Bolling AFB Historic District
Natural Systems and Topography	Anacostia River and flat topography	Flat topography
Land Uses	Housing, administrative, operations, utilities	Housing, administrative, operations, base support, utilities, recreation
Spatial Organization	Northeast to southwest axis along Doherty Road	North-south axis along railroad, Duncan Avenue, and Brookley Avenue
Circulation Networks	Seaplane ramp, Robbins Road SW, Watson Road SW, Doherty Road SW, Wick Drive SW, all sidewalks	Railroad; roads, including Angell Street SW, Westover Avenue SW, Brookley Avenue SW, Duncan Avenue SW, MacDill Boulevard, Dinger Street SW, McChord Street SW, Theisen Street, and Rice Street; sidewalks, including along Brookley Avenue SW, Westover Avenue SW, McChord Street SW, Theisen Street SW, and Rice Street SW, sidewalks along Brookley Avenue, Westover Avenue, McChord Street, Theisen Street, and Rice Street
Boundary Demarcations	Concrete levee, flood wall across seaplane ramp, seawall, Anacostia River	Chain-link fence along Westover Avenue, and the railroad
Vegetation	Formal lawn in front of Building 72	Pin, willow, and live oak trees in residential area along Westover Avenue; select mature pin, willow, and live oak trees in other locations
Small and Large-scale Features	Facility 176, flagstaff in front of Building 72	Lamp posts along Westover Avenue
Building Types	Transportation, administrative/operations, residential, public works	Transportation, administrative/operations, residential, public works, civic, institution
Views and Vistas	View from Facility 108 to the Anacostia River, view of Enterprise Hall (Building 72)	View along Westover Avenue to residential areas; view of Headquarters (Building 20)

Figure 3-3: Alternative 1, NRHP-Eligible Resources and IDP Project Locations, Northern Section

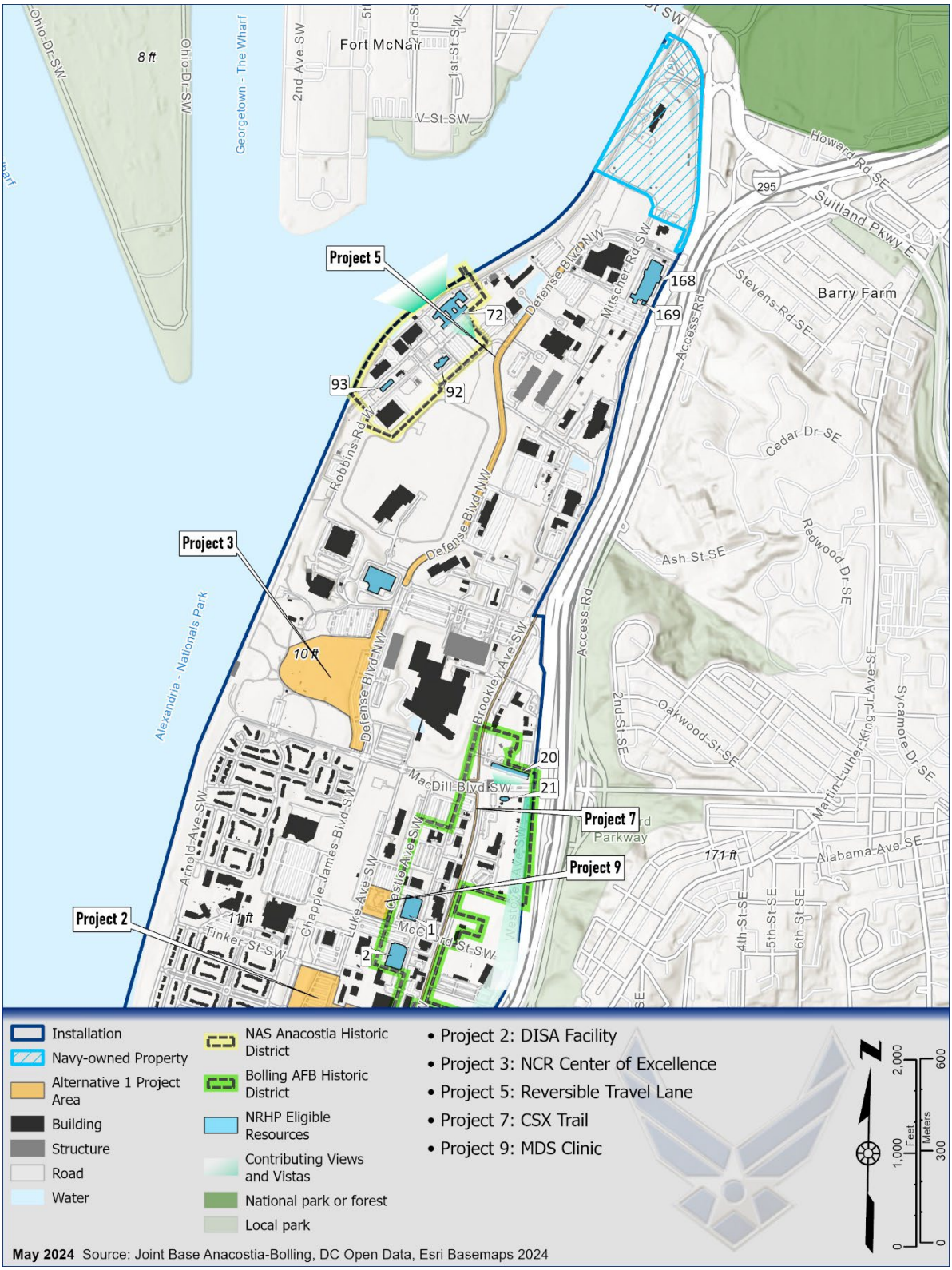


Figure 3-4: Alternative 1, NRHP-Eligible Resources and IDP Project Locations, Southern Section

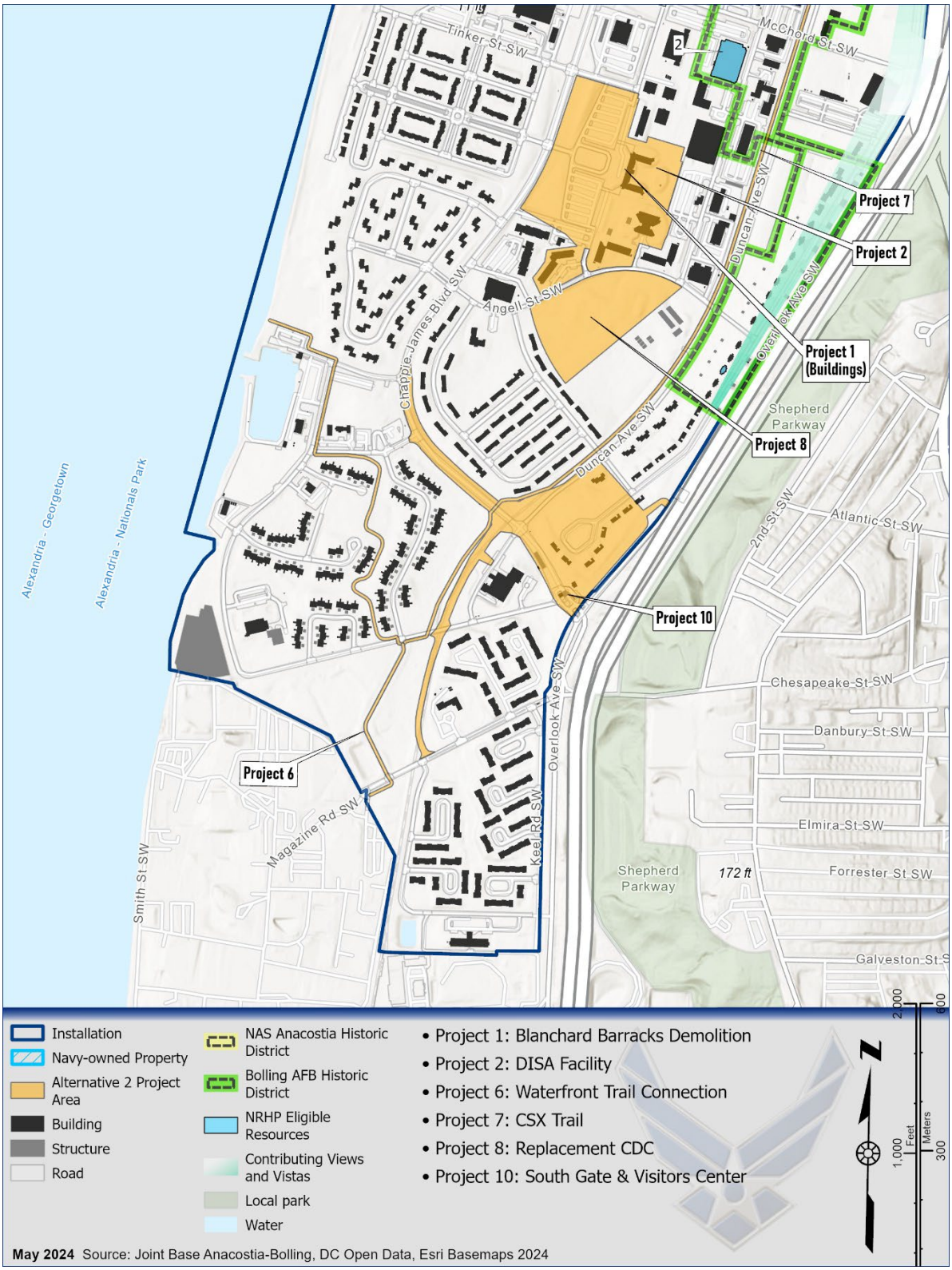


Figure 3-5: Alternative 2, NRHP-Eligible Resources and IDP Project Locations, Northern Section

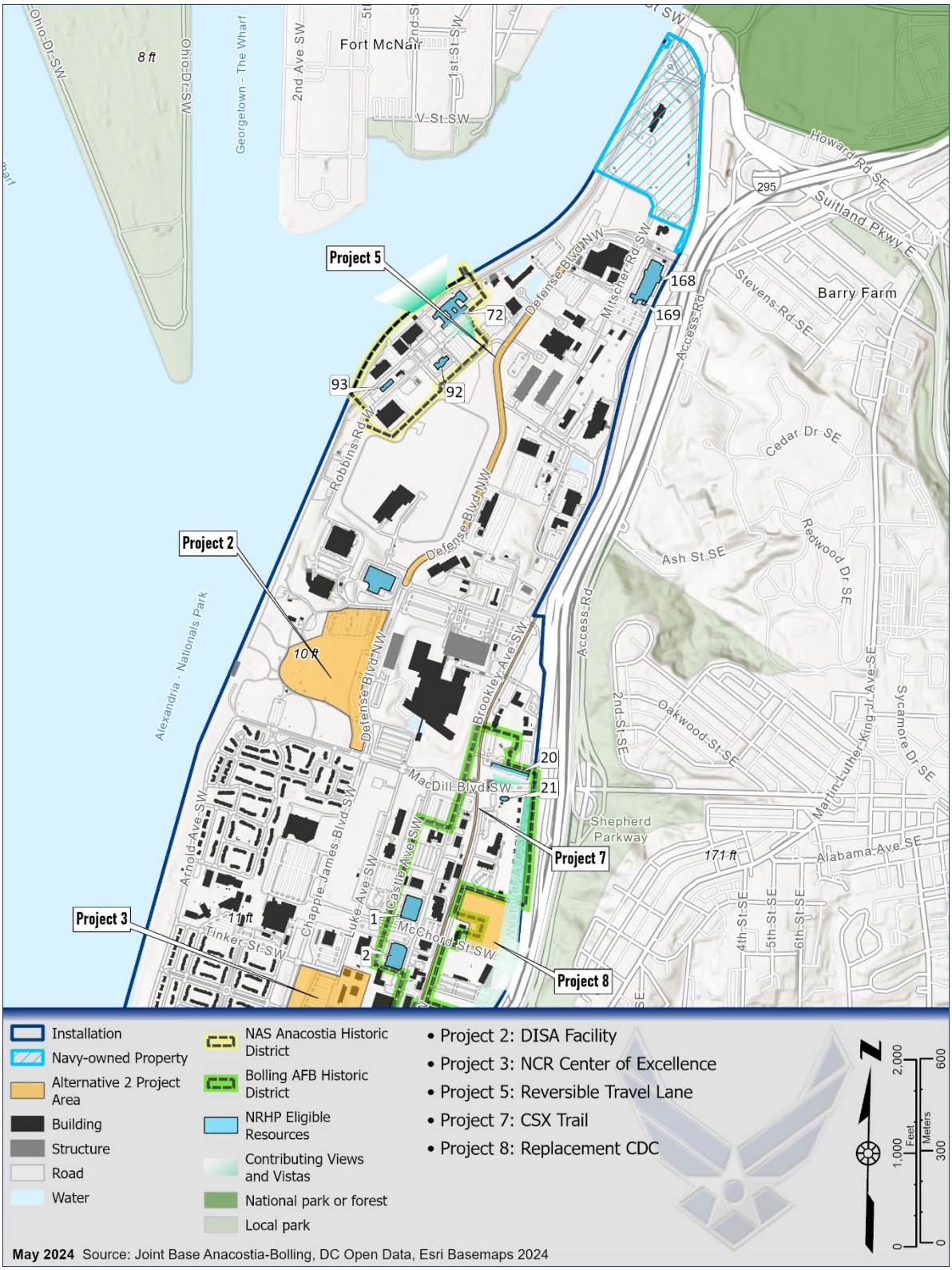


Figure 3-6: Alternative 2, NRHP-Eligible Resources and IDP Project Locations, Southern Section

3.4.3.1 No Action Alternative

Under the No Action Alternative, none of the proposed projects would be constructed. As a result, there would be no effects to cultural resources.

3.4.3.2 Alternative 1: Implement IDP Five-Year Projects

Alternative 1 includes 10 separate projects, several of which are located within or adjacent to the two historic districts within JBAB. Table 3-18 discusses the potential cultural resources effects from the 10 projects. The potential effects are notional, and actual effects cannot be known until after the studies/evaluations/determinations required by NHPA are final (with concurrence from the DC SHPO). NHPA compliance for each project would occur once adequate designs for consultation are available. DAF would seek to avoid adverse effects to the greatest extent practicable. Any unavoidable adverse effects would be minimized and mitigated under the terms of an individual project Section 106 consultation with the DC SHPO and other consulting parties as appropriate. Design of any new construction would be done in accordance with the cultural resources Standard Operating Procedures (SOPs) included in the 2020 JBAB ICRMP (JBAB, 2020).

Table 3-18: Potential Cultural Resources Effects—Alternative 1

Project Number	Project Name	Potential Cultural Resources Effects and Mitigation
1	Blanchard Barracks Demolition	The Blanchard Barracks (Building 1302) and other buildings that would be demolished are located adjacent to the NRHP-eligible Bolling AFB Historic District. Of the four buildings to be demolished, Buildings 1301 and 1302 are not individually eligible for the NRHP. Building 3618, built in 1986, does not meet the 50-year age threshold for eligibility for the NRHP. Building 3621, built in 1977, is recommended for evaluation in the 2020 ICRMP (JBAB, 2020). There would not be any adverse visual effects from this project since none of the buildings associated with this undertaking are within any NRHP-contributing viewsheds associated with the Bolling AFB Historic District. This project site is within an archaeologically sensitive area and the archaeological testing will be completed in Spring 2025. Demolition of buildings within this area could have potential adverse effects that require mitigation. Consultation with the DC SHPO would be required and would follow SOP 3 (NHPA Section 106 Consultation procedures) in the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.

Project Number	Project Name	Potential Cultural Resources Effects and Mitigation
2	DISA Facility	The proposed construction is adjacent to the NRHP-eligible Bolling AFB Historic District. There are no contributing viewsheds between Bolling AFB Historic District and this project site. Therefore, there would be no adverse visual effects from the construction of this project. This project site is within an archaeologically sensitive area and has one archaeological site that requires a Phase II evaluation to determine NRHP eligibility. Consultation with the DC SHPO would be required for this project and would follow SOP 3 (NHPA Section 106 Consultation procedures) in the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.
3	NCR Center of Excellence	This project is approximately 0.30–0.40 miles from the closest NRHP-eligible resources at JBAB (Building 20). Building 20 is individually eligible and contributing to the Bolling AFB Historic District. The APE would not extend to Building 20 due to the distance between the two locations. Therefore, there would be no adverse visual effects to NRHP-eligible resources from Project 3. Much of the project site is covered with heavy fill (> 5 feet) with smaller sections of medium to minimum fill (0.0–5.0 feet). There is some potential for archaeological resources and an archaeological survey is underway. Consultation with the DC SHPO would follow SOP 3 (NHPA Section 106 Consultation procedures) of the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.
4	Electric Switch Station Reliability Improvements	The proposed construction could have visual effects to Bolling AFB Historic District and NAS Anacostia Historic District; however, the impact should not be adverse as it would replace structures and equipment that do not contribute to the significance of either district. Ground disturbance would be done within previously disturbed areas or areas of medium to heavy fill. The DC SHPO would be consulted on this project and consultation would follow SOP 3 (NHPA Section 106 Consultation procedures) in the JBAB ICRMP. This project would likely result in no adverse effect.
5	Reversible Travel Lane on Defense Blvd.	There would be no historic properties affected from the implementation of this project. Defense Boulevard is not within either NRHP-eligible historic district and its improvements would not affect directly nor indirectly any NRHP-eligible resource at JBAB. There is no potential for archaeological resources since this portion of JBAB is entirely historic fill.

Project Number	Project Name	Potential Cultural Resources Effects and Mitigation
6	Connection of Waterfront Trail to Bellevue Housing	There would be no effects to aboveground resources from this project. The resources in the Bellevue Housing area, dating to 1996, do not meet NRHP eligible criteria. The portion of the proposed trail south of McGuire Avenue has been previously surveyed and there are no archaeological resources in the project site. The area north of McGuire Avenue is archaeologically sensitive and there is one site, 51SW12, that is recommended for Phase II investigation if ground disturbance would occur. The proposed trail would avoid the archaeological site. Consultation with the DC SHPO would follow SOP 3 (NHPA Section 106 Consultation procedures) of the JBAB ICRMP. Additionally, SOP 6 addresses procedures for unanticipated archaeological discoveries during construction. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.
7	CSX Trail	The CSX right-of-way is within the NRHP-eligible Bolling AFB Historic District. The railroad is a contributing landscape feature serving as an important north-south axis within the historic district—the design of Bolling AFB is based off this axis. Additionally, the railroad is contributing as an integral circulation feature in the district's landscape and serves as a contributing boundary demarcation within the district (Baynard, 2020). Much of the proposed project site was surveyed for archaeological resources in 1978; no sites were identified (JBAB, 2020). The ground disturbance from the railroad suggests there would be low archaeological potential. Consultation with the DC SHPO would follow SOP 3 (NHPA Section 106 Consultation procedures) in the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.

Project Number	Project Name	Potential Cultural Resources Effects and Mitigation
8	Replacement CDC	The southernmost portion of the NRHP-eligible Bolling AFB Historic District is approximately 0.10 miles to the east of this project site. The line of trees along Duncan and Westover avenues serves as a visual buffer between the two locations. There would be no adverse visual effects to the Bolling AFB Historic District from Project 8. The area is covered with heavy to medium fill (1.5 feet to > 5 feet) and was previously disturbed with numerous multi-family housing units across the entire site. In 2021, the charter school was built adjacent to this project site, which was built on land that was also used for multi-unit family housing. An archaeological study did not find any NRHP-eligible resources for which there would be an adverse effect. A future archaeological study will survey the remaining portion of the parcel where the CDC project will be completed. Consultation with the DC SHPO would be required for this project and would follow SOP 3 (NHPA Section 106 Consultation procedures) in the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.
9	MDS Clinic	This site is adjacent to the NRHP-eligible Bolling AFB Historic District. There are no significant viewsheds between the project location and NRHP-eligible resources; therefore, there would be no adverse visual effects from Project 9. Buildings 1300 and 17 would be demolished. These resources were determined not eligible and concurred upon by the DC SHPO in 2018 (JBAB, 2020). Therefore, there would be no effects to aboveground historic properties with Project 9. The area is covered with minimal to medium fill (0 feet to 5 feet) and has medium archaeological sensitivity according to the 2020 ICRMP, which recommends this area undergo Phase I survey. The area has been previously disturbed—the entire block has been paved with asphalt and structures have stood at this location in the recent past. Consultation with the DC SHPO would be required and would follow SOP 3 (NRHP Section 106 Consultation procedures) in the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.

Project Number	Project Name	Potential Cultural Resources Effects and Mitigation
10	South Gate & Visitor Center	The proposed construction is near to the southernmost portion of the NRHP-eligible Bolling AFB Historic District. There are seven single-family dwellings along Westover Avenue, built between 1964–1979, that stand between this project site and the historic district boundary—approximately 0.15 miles. These seven buildings have not been evaluated. Due to the size and scale of the project and the physical buffer there would be no visual adverse effects to the NRHP-eligible historic district. There would be no direct effects to the historic district and its landscape features. Historically, the northern portion of this project site appears to have been previously disturbed with earth-covered magazines. The magazines were removed between 1964–1979; however, their locations have not been disturbed since. Prior ground disturbance due to the magazines and the presence of seven houses on this site suggests there is low archaeological potential. It does not appear there would be adverse effects to cultural resources. Consultation with the DC SHPO would be required and would follow SOP 3 in the JBAB ICRMP. This project would likely result in no historic properties affected.

Summary

Under Alternative 1, NHPA compliance for each project would occur once adequate designs for consultation are available. Design of new construction would be done in accordance with the cultural resources SOPs included in the 2020 JBAB ICRMP (JBAB, 2020). The DAF would avoid all historic properties where feasible and conduct archaeological investigations for each project where necessary. The DAF would seek to avoid, minimize and mitigate any potential adverse effects to historic properties through consultation with the DC SHPO. Identified adverse effects would be mitigated under the terms of an individual project Section 106 consultation with the DC SHPO. If appropriate mitigation is identified with the DC SHPO and followed, there would be no significant effects to cultural resources.

3.4.3.3 Alternative 2: Alternative Siting for IDP Five-Year Projects

Most effects to cultural resources under Alternative 2 would be the same as for Alternative 1, as the proposed projects are either in the same location as Alternative 1 or if in different locations are still within the same historic districts as under Alternative 1. Table 3-19 discusses the potential cultural resources effects from the 10 projects under Alternative 2. Similar to Alternative 1, the potential effects are notional, and actual effects cannot be known until after the studies/evaluations/determinations required by NHPA are final (and accepted by DC SHPO). NHPA compliance for each project would occur once adequate designs for consultation are available. Identified adverse effects would be mitigated under the terms of an individual project Section 106 consultation with the DC SHPO. Design of new construction would be done in accordance with the cultural resources SOPs included in the 2020 JBAB ICRMP (JBAB, 2020).

Table 3-19: Potential Cultural Resources Effects—Alternative 2

Project Number	Project Name	Potential Cultural Resources Effects and Mitigation
1	Blanchard Barracks Demolition	Effects would be the same as under Alternative 1.
2	DISA Facility	This project is approximately 0.30–0.40 miles from the closest NRHP-eligible resources at JBAB (Building 20). Building 20 is individually eligible and contributing to the Bolling AFB Historic District. The APE would not extend to Building 20 due to the distance between the two locations. Therefore, there would be no adverse visual effects to NRHP-eligible resources from Project 2 under Alternative 2. Much of the project site is covered with heavy fill (> 5 feet) with smaller sections of medium to minimum fill (0.0–5.0 feet). There is some potential for archaeological resources and an archaeological survey is underway. Consultation with the DC SHPO would follow SOP 3 (NHPA Section 106 Consultation procedures) of the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.
3	NCR Center of Excellence	The proposed construction is adjacent to the NRHP-eligible Bolling AFB Historic District. There are no contributing viewsheds between Bolling AFB Historic District and this project site. Therefore, there would be no adverse visual effects from the construction of this project. Under Alternative 2, Buildings 1303–1306 would be demolished. Building 1304 (built 1968) has been determined not eligible for the NRHP. The other three buildings were built in 1998 and have not been evaluated. These buildings do not meet criteria for NRHP eligibility. There would be no direct effects to aboveground cultural resources from Project 3 under Alternative 2. This project site is within an archaeological-sensitive area and archaeological testing will be completed in Spring 2025. Consultation with the DC SHPO would be required and would follow SOP 3 (NHPA Section 106 Consultation procedures) in the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.
4	Electric Switch Station Reliability Improvements	Effects would be the same as under Alternative 1.
5	Reversible Travel Lane on Defense Blvd.	Effects would be the same as under Alternative 1.
6	Connection of Waterfront Trail to Bellevue Housing	Effects would be the same as under Alternative 1.
7	CSX Trail	Effects would be the same as under Alternative 1.

Project Number	Project Name	Potential Cultural Resources Effects and Mitigation
8	Replacement CDC	This site is immediately adjacent to the NRHP-eligible Bolling Historic District and has the potential for visual effects to the historic district and direct effects to archaeological sites within the construction footprint. NRHP-contributing views exist along Westover Avenue in both directions of the historic district. Construction on this block may adversely affect these contributing views. The JBAB Historic Chapel, which is located within the same parcel, would remain in place and would be avoided. The chapel is an NRHP-contributing resource. This block has undergone previous ground disturbance with numerous buildings constructed across its landscape at various times. In 1949, there were 15 buildings (including the chapel) on this block, which was then reduced to nine buildings by 1980. Currently, the block holds two buildings (included in the historic district) and two tennis courts (not in the historic district). An archaeological site was identified on this site and recommended eligible for the NRHP in 2018 and the 2020 ICRMP recommends a Phase II survey of the area. Consultation with the DC SHPO would be required and would follow SOP 3 (NRHP Section 106 Consultation procedures) in the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.
9	MDS Clinic	Under Alternative 2, Building 17 and Building 1300 would be renovated and Building 3 would be vacated. There would be no effects to Buildings 17 and 1300 since they are not eligible for the NRHP. Building 3 is contributing resource to the NRHP-eligible Bolling AFB Historic District; however, removing its current functions would not be an adverse effect to the historic property. The ground disturbance associated with the 10,000 SF building addition may cause direct effects to potential archaeological sites. The area is archaeologically sensitive according to the 2020 ICRMP. Significant views associated with the Bolling AFB Historic District would not be affected; therefore, there would be no indirect effects under Alternative 2 for Project 9. Consultation with the DC SHPO would be required and would follow SOP 3 (NRHP Section 106 Consultation procedures) in the JBAB ICRMP. The DAF would first avoid, then minimize effects to historic properties under this project. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, this project would likely result in no significant effects.
10	South Gate & Visitors Center	Effects would be the same as Alternative 1.

Summary

Under Alternative 2, NHPA compliance for each project would occur once adequate designs for consultation are available. Design of new construction would be done in accordance with the cultural resources SOPs included in the 2020 JBAB ICRMP (JBAB, 2020). The DAF would avoid all historic properties where feasible and conduct archaeological investigations for each project where necessary. The DAF would seek to avoid, minimize, and mitigate any potential adverse effects to historic properties

through consultation with the DC SHPO. Identified adverse effects would be mitigated under the terms of an individual project Section 106 consultation with the DC SHPO. If appropriate mitigation is identified with the DC SHPO and followed, there would be no significant effects to cultural resources.

3.5 Infrastructure

3.5.1 Regulatory Setting

The regulatory framework for infrastructure at JBAB is governed by a series of instructions and strategies that ensure the development, management, and modernization of military facilities align with established standards and objectives. DAFI 32-1015, *Integrated Installation Planning,* provides the overarching guidance for installation planning and emphasizes the importance of resilient, adaptive, and sustainable installations.

3.5.2 Affected Environment

The following discussions provide a description of the existing conditions and capacity for infrastructure at JBAB. Functionality and efficiency of utility infrastructure at JBAB is a critical component for meeting mission needs. Overall, infrastructure conditions ratings range from fair to poor, with existing capacities that are adequate to meet current demand but with limited reserve capacity to meet increasing demands without future modernization.

Potable Water

JBAB sources its water supply from DC Water, which is delivered through two separate distribution systems for the installation's north and south sides, with a daily average demand of 878 kilogallons per day and a peak rate of 953 kilogallons per day. The northern system has a primary main pipeline that is linked to several subsidiary pipe connections, and a comprehensive network of smaller pipes that extend throughout the northern part of the installation. The southern system has a primary main line that is linked to several metered connections and comprises an aging network of piping, service connections, fire hydrants, and supply valves. Certain portions of the system need infrastructure upgrades to ensure sufficient pressure for fire protection and some components of the system are subject to EPA administrative orders due to ongoing issues relating to flooded meter vaults and inadequate backflow prevention controls (JBAB, 2022a; USEPA, 2019). Replacement of the current water distribution system at JBAB is currently in the planning stages (JBAB, 2022a). Within the Sentinels of the Capital District, land subsidence near Building 398 is currently impacting potable water infrastructure and limiting water availability within the mail facilities (JBAB, 2022b). Overall, the potable water system at JBAB has a yellow "watch list" capacity rating, meaning that it is adequate for current mission requirements, but with limited or no potential for growth (JBAB, 2022a).

Wastewater Systems

Wastewater at JBAB is handled through a system of gravity mains, pressurized mains, and lift stations organized into five collection basins before being treated by DC Water at the Blue Plains Advanced Wastewater Treatment Plant and discharged into the Potomac River. The wastewater system at JBAB operates at approximately 70 percent capacity, with daily average demand of 790 kilogallons per day, and peak demand as high as 858 kilogallons per day. Overall, the system is rated as fair to poor, with ongoing issues related to insufficient pipe sizes causing backflow issues and affecting pumping capacity (JBAB, 2022a).

Storm Water

Storm water at JBAB is handled through two separate systems with the northside system draining to the Anacostia River, and the southside system draining into the Potomac River. The northside storm water

system is comprised by a network of drainpipes, culverts, inlets, outfalls, and pump stations. Three of the four outfalls have undergone major upgrades in order to mitigate flooding issues at the installation (JBAB, 2022a). Flooding remains a major issue at JBAB, with degraded storm water capacity in some areas as a contributing factor. Compliance with federal requirements for stormwater infiltration and the need to reduce pressure on the combined sewer outflows into the Potomac and Anacostia Rivers has driven the need to incorporate additional stormwater treatment features at JBAB, including bioswales, green retention areas, sand filters, trash receptors, porous pavements, and green roofs. Additional upgrades are planned to increase storm water capacity within the system (JBAB, 2022a). Within the Historic Anacostia and Sentinels of the Capital districts, land subsidence is a concern that compounds issues with aging stormwater infrastructures. These components could imperil underground pipes while also increasing flood risk and the overall demand on the system (JBAB, 2022b; JBAB, 2023b). Large, mature oak trees with extensive root systems are a contributing factor to deteriorating stormwater infrastructure in areas of historic housing within the Historic Bolling District (JBAB, 2022c). Overall, the storm water system at JBAB has a yellow capacity rating, meaning that it is adequate for current mission requirements, but with limited or no potential for growth (JBAB, 2022a).

Electrical

Electrical service at JBAB is provided by the Potomac Electric Power Company (PEPCO) with a total demand of approximately 89,000 megawatt hours per year. The age of electrical infrastructure and other concerns present challenges to ensuring adequate system capacity into the future (JBAB, 2022a). The Historic Bolling District's ongoing 5-year plan for upgrades includes improvements to the resiliency of the electrical infrastructure (JBAB, 2022c). Within the Sentinels of the Capital District, power outages due to the lack of sufficient distribution, source redundancy, and insufficient backup generators has caused disruptive power outages (JBAB, 2022b). Overall, the electrical system at JBAB has a yellow rating, meaning that it is adequate for current mission requirements, but with limited or no potential for growth (JBAB, 2022a).

Natural Gas

Natural gas infrastructure at JBAB is owned and maintained by Washington Gas. Natural gas service is provided though mainlines entering the installation and a separated feeder line. Daily average demand on the system is approximately 108,000 cubic feet, with peak demand reaching approximately 118,000 cubic feet per day. The installation's natural gas infrastructure is adequate to meet current and future mission needs (JBAB, 2022a).

Communications

Telephone service at JBAB is provided by Verizon. The 844th Communications Group and 794th Communications Squadron maintain communications infrastructure and provide customer support. Overall, communications infrastructure at JBAB is in poor condition with a red rating, meaning it does not meet current installation requirements (JBAB, 2022a).

3.5.3 Environmental Consequences

This section analyzes the magnitude of anticipated increases or decreases in public works infrastructure demands considering current conditions and storage capacities and evaluates potential effects on public works infrastructure associated the alternatives. Adverse effects are evaluated by whether they would result in the use of a substantial proportion of the remaining system capacity, reach or exceed the current capacity of the system, or require development of facilities and sources beyond those existing or currently planned.

3.5.3.1 No Action Alternative

Under the No Action Alternative, existing infrastructure conditions and capacities would not be improved. Current impacts to mission sustainment and readiness would persist and possibly increase without the upgrades included with the Proposed Action, particularly associated with Project 4, Electric Switch Station Reliability Improvements and new utility connections associated with new facilities.

3.5.3.2 Alternative 1: Implement IDP Five-Year Projects

Construction and demolition activities under Alternative 1 would result in short-term effects to utility infrastructure and services at the installation. Brief disruptions in water, electricity, natural gas, and communications services would be expected throughout project implementation. These disruptions would be planned and coordinated with potentially affected facilities to avoid major effects to mission operations or quality of life for residents.

Detailed design plans for Alternative 1 projects are not yet available, including the specific utility requirements and systems necessary for new construction projects. As necessary and based on the existing infrastructure at each site, upgrades for specific utility systems and infrastructure would be incorporated into the early construction phases if on-site systems are degraded or determined not to be adequate for the specific project. Given the overall condition of JBAB infrastructure, utility system upgrades would likely be required for Alternative 1 projects that require utility connections.

Under Alternative 1, the installation workforce would increase by 2,150 individuals or approximately 13 percent. This increase would likely translate into a proportional increase in demand on potable water, wastewater, electrical, natural gas, and communications infrastructure at JBAB. Table 3-20 summarizes existing conditions for these categories of infrastructure and expected effects likely to result from both action alternatives.

Potable water

Given the increase in the workforce, average potable water demand could increase to approximately 992 kilogallons per day. Under a worst-case scenario, a peak potable water demand of 1,077 kilogallons per day could occur. Given the current “watch list” capacity rating of the potable water system, this additional demand would likely result in adverse effects. However, modern facility design and efficiency standards including low-flow fixtures, more efficient plumbing systems, and smart water management technologies would likely be incorporated into the new infrastructure. These efficiency standards would reduce the overall increase in demand under Alternative 1. Additionally, on-going and planned potable water infrastructure modernization projects would likely keep pace with increased demands. For these reasons, Alternative 1 would only result in long-term, minor adverse effects to potable water.

Wastewater

With the additional workforce, an increase in wastewater system demand would likely occur. In the absence of more efficient plumbing systems incorporated into new facility designs, an approximate 13 percent increase in the installation workforce would likely result in an average daily demand of 892 kilogallons, with peak daily demand of 970 kilogallons. This would equate to approximately 79 percent of total wastewater capacity at JBAB. However, more efficient plumbing systems within the new facilities would offset a portion of this increased demand on the wastewater system. Overall, Alternative 1 would result in long-term, minor increases in wastewater demand.

Table 3-20: Summary of Potiential Effects on Infrastructure

Utility System	Provider	Current Capacity Rating	Will Alternative Increase Demand?	Potential Effects to Infrastructure Condition and Capacity
Potable Water	DC Water	Yellow, *Meets current mission(s) requirements with limited or no potential for growth.*	Yes	Improved efficiencies of modern facility design and infrastructure upgrades on JBAB would likely offset a portion of increased demand, resulting in only minor adverse effects.
Wastewater	DC Water	Yellow, *Meets current mission(s) requirements with limited or no potential for growth.*	Yes	Existing capacity is adequate to handle increased demand.
Storm Water	n/a	Yellow, *Meets current mission(s) requirements with limited or no potential for growth.*	Yes	Low-impact development standards associated with the new construction would improve overall stormwater capacity.
Electrical	PEPCO	Yellow, *Meets current mission(s) requirements with limited or no potential for growth.*	Yes	The electrical infrastructure modernization project would improve electrical service reliability at the installation and increase redundancy within the system, creating a more resilient and dependable electrical grid.
Natural Gas	Washington Gas	Green, *Meets current mission(s) requirements with growth potential.*	Yes	Existing infrastructure capacity is adequate for mission growth.
Communications	Verizon/ DAF	Red, *Does not meet current mission(s) requirements.*	Yes	Existing concerns with capacity issues, and communications infrastructure condition, including inadequately housed lines and frequently flooding manholes, would likely persist at the installation until infrastructure upgrades occur.

Stormwater

Construction and demolition activities would likely result in short-term effects to storm water infrastructure within the immediate vicinity of project sites. During these activities, disturbed and exposed soils could lead to an increase in sedimentation during precipitation events, resulting in overwhelmed storm drains and reduced runoff capture capacity. Additionally, heavy equipment utilized at project sites has the potential to compact soils, reducing their ability to absorb water, increasing the volume of runoff

that must be managed by stormwater systems. These effects to stormwater infrastructure would be minimized through the implementation of required stormwater BMPs and erosion and sediment control plans and would be short-term.

Alternative 1 would result in a net-increase of impervious surfaces, potentially increasing overall demand on the stormwater infrastructure that currently has minimal additional capacity. Increases in stormwater demand would be minimized through stormwater management and control elements incorporated into the design of planned facilities. Low-impact development standards associated with the new construction would improve overall stormwater capacity, offsetting runoff associated with the increased impervious surfaces. Overall, Alternative 1 would be expected to improve the overall condition of stormwater infrastructure at the project-specific sites, with minor effects to overall stormwater capacity.

Electrical

The new facilities and additional personnel would increase overall demand on existing electrical infrastructure. The proposed facilities would incorporate design elements aimed at energy efficiency, minimizing the overall increase in electrical demand. The electrical infrastructure modernization project would improve electrical service reliability at the installation and increase redundancy within the system, creating a more resilient and dependable electrical grid. As a result, long-term, beneficial effects to electrical infrastructure condition and capacity would be expected under Alternative 1.

Natural Gas

New facilities and additional personnel would likely increase natural gas demand at the installation. The installation's natural gas infrastructure is currently in good condition with adequate capacity to meet future demands. No long-term effects to natural gas infrastructure condition and capacity would be expected under Alternative 1.

Communications

Issues related to existing communications infrastructure at the installation, as discussed in Section 3.4.2, could be exacerbated by the expected increase in the workforce under Alternative 1. Existing concerns with capacity issues and communications infrastructure condition would likely persist until infrastructure upgrades occur. Overall, the condition of the communications infrastructure would remain unchanged. Communications needs for each proposed project would be determined during the design and construction phase, at which time DAF would assess the infrastructure upgrades necessary to ensure the viability of the installation communication requirements. The increase in demand under Alternative 1 would result in long-term, minor effects to the communications infrastructure.

Summary

Overall, effects to infrastructure at JBAB under Alternative 1 would result in short-term, minor disruptions in utility services on an intermittent basis. Alternative 1 would have long-term, beneficial effects to electrical infrastructure reliability. Modern building designs that incorporate water and energy efficiency standards would likely offset a portion of the anticipated increase in demand under Alternative 1. However, the increases in infrastructure demand would have long-term, minor effects on the overall infrastructure capacities, adding additional stress to aging systems already in need of upgrades.

3.5.3.3 Alternative 2: Alternative Siting for IDP Five-Year Projects

Effects to infrastructure under Alternative 2 would be similar to those described for Alternative 1. Localized service disruptions during construction and demolition activities would vary slightly; however, close coordination would ensure no major effects to mission activities would occur. An equally projected increase in the installation workforce would result in comparable long-term increases in infrastructure demands as compared to Alternative 1, while the overall condition of existing infrastructure would largely

remain unchanged. Overall, effects to infrastructure at JBAB under Alternative 2 would result in short-term, minor disruptions in utility services. Alternative 2 would have long-term, beneficial effects to electrical infrastructure reliability. Modern building designs that incorporate water and energy efficiency standards would likely offset a portion of the anticipated increase in demand under Alternative 2. However, the increases in infrastructure demand would have long-term, minor effects on the overall infrastructure capacities, adding additional stress to aging systems already in need of upgrades.

Summary

Under Alternative 2, effects would be similar to those under Alternative 1. No significant effects on infrastructure would occur.

3.6 Noise

This discussion of noise includes the types or sources of noise and the associated sensitive receptors in the human and biological environment.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Sound is all around us. The perception and evaluation of sound involves three basic physical characteristics:

- Intensity—the acoustic energy, which is expressed in terms of sound pressure, in decibels (dB)
- Frequency—the number of cycles per second the air vibrates, in Hertz
- Duration—the length of time the sound can be detected

Noise is defined as unwanted or annoying sound that interferes with or disrupts normal human activities. Although continuous and extended exposure to high noise levels (e.g., through occupational exposure) can cause hearing loss, the principal human response to noise is annoyance. The response of different individuals to similar noise events is diverse and is influenced by the type of noise, perceived importance of the noise, its appropriateness in the setting, time of day, type of activity during which the noise occurs, and sensitivity of the individual.

3.6.1 Regulatory Setting

The loudest sounds that can be detected comfortably by the human ear have intensities that are a trillion times higher than those of sounds that can barely be detected. This vast range means that using a linear scale to represent sound intensity is not feasible. The dB is a logarithmic unit used to represent the intensity of a sound, also referred to as the sound level. All sounds have a spectral content, which means their magnitude or level changes with frequency, where frequency is measured in cycles per second or Hertz. To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted. For example, environmental noise measurements are usually on an "A-weighted" scale that filters out very low and very high frequencies to replicate human sensitivity. It is common to add the "A" to the measurement unit to identify that the measurement has been made with this filtering process (i.e., dBA). In this document, the dBA unit refers to A-weighted decibels or sound levels. Table 3-21 provides a comparison of how the human ear perceives changes in loudness on the logarithmic scale.

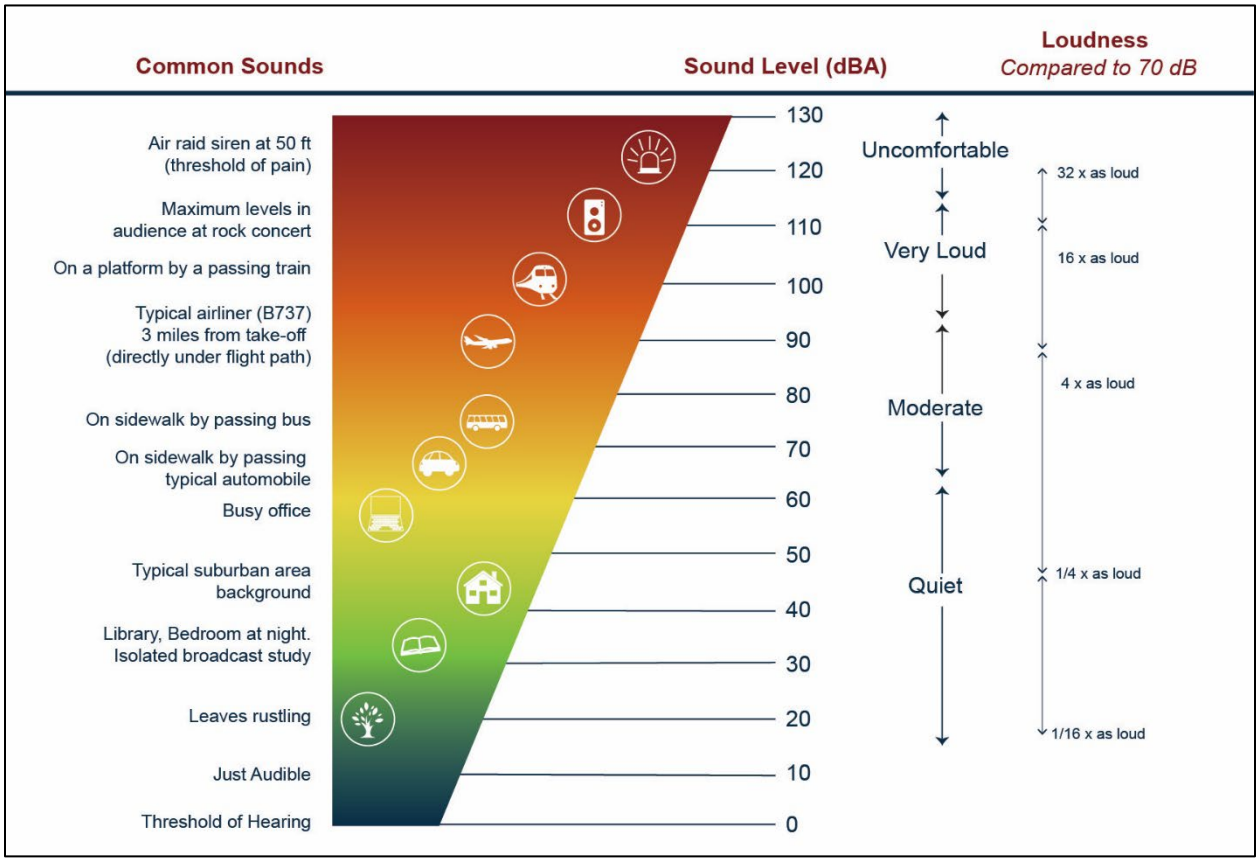
Table 3-21: Subjective Responses to Changes in A-Weighted Decibels

Change	Change in Perceived Loudness
3 dBA	Barely perceptible
5 dBA	Quite noticeable
10 dBA	Dramatic—twice or half as loud
20 dBA	Striking—fourfold change

Key: dBA = A-weighted decibel

Figure 3-7 provides a chart of A-weighted sound levels from typical noise sources. Some noise sources (e.g., air conditioner, vacuum cleaner) are continuous sounds that maintain a constant sound level for some period (Cowan, 1994). Other sources (e.g., automobile, heavy truck) are the maximum sound produced during an event like a vehicle pass-by. Other sounds (e.g., urban daytime, urban nighttime) are averages taken over extended periods of time. A variety of noise metrics have been developed to describe noise over different time periods, as discussed in the following text.

Figure 3-7: A-Weighted Sound Levels from Typical Sources



Noise Metrics

A metric is a system for measuring or quantifying a characteristic of a subject. Since noise is a complex physical phenomenon, different noise metrics help to quantify the noise environment.

Day-Night Average Sound Level (DNL)

DNL is defined as the average sound energy in a 24-hour period with an adjustment (in decibels) added to nighttime noise events occurring between the hours of 10:00 p.m. and 7:00 a.m. DNL provides a measure of the overall acoustical environment, but it does not directly represent the sound level at any given time.

It is an average quantity mathematically representing the continuous A-weighted sound level that would be present if all the variations in sound level that occur over a 24-hour period were smoothed out to contain the same total sound energy. DNL accounts for the maximum noise levels, the duration of the events (operations), the number of events, and the timing of their occurrence over a 24-hour period. DNL contours are based on the average annual day and averaged over 365 days for long-term compatible land use planning.

Maximum Sound Level (Lmax)

The highest A-weighted sound level measured during a single event where the sound level changes value with time is called the maximum A-weighted sound level or Lmax. This is the highest sound level within a stated time interval. The time interval is typically the duration of the noise event.

Equivalent Sound Level

A cumulative noise metric useful in describing noise is the equivalent sound level (Leq). Leq is the continuous sound level that would be present if all the variations in sound level occurring over a specified period were smoothed out to contain the same total sound energy. The calculation for a daily average time or a 24-hour equivalent sound level is abbreviated Leq(24). Other typical time periods for Leq are 1 hour and 8 hours.

3.6.2 Affected Environment

Response to noise varies, depending on the type and characteristics of the noise, distance between the noise source and whoever hears it (the receptor), receptor sensitivity, and time of day. A noise-sensitive receptor is a land use where people involved in indoor or outdoor activities could be subject to stress or considerable interference from noise. Such locations or facilities often include residential dwellings, hospitals, nursing homes, educational facilities, and libraries. Sensitive receptors can also include noise-sensitive cultural practices, some domestic animals, or certain wildlife species.

The predominant sources of noise at JBAB and the surrounding area include on-base military helicopter operations, commercial aircraft operations at Ronald Reagan Washington National Airport (DCA) across the Potomac River, and vehicular traffic, particularly from South Capitol Street and I-295. Secondary sources of noise include installation traffic, equipment operation, installation-wide announcements, anthems at the start of day and end of day, boat traffic, and Honor Guard practice. There are two rotary-wing landing facilities on JBAB where helicopter operations occur. A smaller helicopter landing zone is designated for personnel transport and medical evacuation flights. Both landing facilities are in the middle of the installation. Helicopter operations from these facilities are sporadic and not a consistent source of noise. While noise from DCA is steady, the installation and nearby neighborhoods are outside the 65 dBA DNL contour, which is the accepted threshold for incompatibility with residential land uses.

The project sites are within the installation boundary and the land that surrounds the project sites consists mostly of military uses. The Anacostia River is west of the military boundary; South Capitol Street (which turns into Outlook Avenue SW to the south) and I-295 are located to the east. The project sites are within and/or adjacent to all of the different types of the installation's land uses, including industrial/logistics, mission/administration, airfield operations, unaccompanied housing, CSX easement, community support, family housing, medical, open space/outdoor recreation, and transient quarters. To the east of I-295, along the interstate, lies Shepherd Parkway, Fort Greble Park, and a buffer of trees that extend parallel to the southernmost point of JBAB to the northern portion of JBAB, adjacent to the US Coast Guard Headquarters. East of the parks and tree buffer are residences, businesses, religious facilities, Leckie Elementary School, and BridgePoint Hospital National Harbor.

Table 3-22 shows typical sound levels for various types of residential land uses. Very noisy urban areas have the highest sound levels at 66 dBA during the daytime and 58 dBA during nighttime hours. Normal suburban areas are 50 dBA during the day and 44 dBA at night. Given the land uses around the proposed project sites, and that the area is in Washington, DC, existing land use is considered to be noisy and urban.

Table 3-22: Typical Residential Sound Levels

Residential Land Use	Daytime Sound Level	Nighttime Sound Level
Very Noisy Urban	66 dBA	58 dBA
Noisy Urban	61 dBA	54 dBA
Urban/Noisy Suburban	55 dBA	49 dBA
Quiet Urban/Normal Suburban	50 dBA	44 dBA
Quiet Suburban	45 dBA	39 dBA
Very Quiet Suburban/Rural	40 dBA	34 dBA

(ANSI/ASA, 2013)
Key: dBA = A-weighted decibels

3.6.3 Environmental Consequences

3.6.3.1 No Action Alternative

The Proposed Action would not occur under the No Action Alternative and noise levels would remain the same as existing conditions. The noise environment under the No Action Alternative would continue to be affected by noise sources like helicopter operations, commercial aircraft operations, and vehicular traffic, boat traffic, operation of equipment, and other installation activities. Therefore, no significant effects on the noise environment would occur under the No Action Alternative.

3.6.3.2 Alternative 1: Implement IDP Five-Year Projects

The study area for noise effects includes the Alternative 1 project sites and surrounding areas.

Short-term effects from Alternative 1 would include instantaneous and intermittent daytime noise from demolition and construction activities. Noise levels from demolition and construction of the proposed projects would diminish with distance from the project sites and would only occur during daytime hours. Table 3-23 lists the typical maximum noise levels (Lmax) at 50 feet from the source of heavy equipment that could be used during the proposed demolition and construction activities.

As shown in Table 3-23, Lmax from construction equipment and trucks can range from 74 dBA to 90 dBA at 50 feet. Project 10 would be the closest site to a noise sensitive area located outside of the installation, which are residences and the Living Word Church located approximately 700 feet east of the installation (i.e., housing on 2nd St SW). Project 10 involves the replacement of a new gate; thus, paving would likely occur. The cumulative noise level from paving is estimated to be 92 dBA; at 700 feet that level diminishes to 69 dBA (see Appendix D, Noise Calculations). Populations at these residences, the Living Word Church, and other surrounding land uses could experience noise effects from increased noise levels during the construction period; however, these effects would be intermittent, confined to daytime hours, and would be short-term, as they are estimated to occur from FY2028–FY2029. Additionally, Overlook Avenue SW, I-295, and approximately 275 feet of trees lie between the eastern edge of the project site and the nearest residence. The trees would provide a buffer from the construction noise. In addition, these residences already experience noise from vehicular traffic on the major roadways. Therefore, it is unlikely that off-installation residences and the Living Word Church would experience noise levels that are uncommon in the existing ambient environment.

Table 3-23: Construction Equipment Noise Emission Levels

Equipment	Typical Maximum Noise Level (Lmax dBA) 50 feet from Source
Air compressor	81
Backhoe	80
Compactor	82
Concrete mixer	85
Concrete pump	82
Crane	88
Dozer	85
Generator	81
Grader	85
Impact wrench	85
Jack hammer	88
Loader	85
Paver	89
Pump	76
Rail saw	90
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike driver	77
Tie cutter	84
Tie inserter	85
Truck	88

Source: (Federal Transit Administration, 2006).
Key: dBA = A-weighted decibels.
Note: Table based on a USEPA Report, which measured data from railroad construction equipment taken during the Northeast Corridor Improvement Project, and other measured data.

Project 8 would be constructed adjacent to the Learn DC Public Charter School. The exact locations of the structures and the limits of disturbance for Projects 3 and 8 would be determined during design. Thus, a conservative estimate of 50 feet from the construction site was used to determine noise levels at these sensitive receptors, which generally ranges from 74 dBA to 90 dBA. Populations at the Learn DC Public Charter School could experience noise effects from increased levels during the construction period; however, these effects would be intermittent and short-term, as they are estimated to occur from FY2028–FY2029. Additionally, buildings that are in good condition can provide a reduction in exterior noise levels. A typical dwelling built with standard materials provides 20 to 30 dB of noise-level reduction when the windows and doors are closed, if the structure is in good condition (U.S. Navy, 2005). The Learn DC Public Charter School is expected to move into a permanent facility by FY2028, which would improve soundproofing over the current trailer setup. Therefore, there would be no significant effects from construction noise on nearby schools.

Project 6 is the closest site to the Potomac River. Boats, ferries, water taxis, and sightseeing boat tours travel in the Potomac River. The distance between the boats and Project 6 is approximately 1,700 feet. Project 6 includes the construction of a trail; therefore, clearing and grubbing would likely occur. The cumulative noise level from clearing and grubbing is estimated to be 86 dBA; at 1,700 feet, that level diminishes to 55 dBA. The proposed trail would also go through residential housing adjacent to McGuire Avenue. There would be approximately 50 feet between Project 6 and the nearest residence. Noise from

construction would be intermittent, confined to daytime hours, and would be short-term, as they are estimated to occur from FY2026–FY2027. Additionally, construction work for this project would be minor and extend approximately 2,200 feet through the residential area. Therefore, residences 50 feet away would be exposed to the associated noise levels for a short period of time, and noise would dissipate as the project progressed further away from each residence. In addition, buildings in good condition with closed windows and doors can reduce exterior noise levels (Federal Aviation Administration, 2022). Therefore, effects from construction noise would not be significant.

Noise levels would increase in the short term due to increased traffic from construction trucks and equipment. Noise levels would also increase in the long term due to increased traffic from the additional personnel hired to operate the proposed facilities. A noise study that evaluates the potential noise effects from the proposed construction, demolition, and renovation projects in more detail is included in Appendix E.

Traffic data from the *Transportation Study for Five-Year Installation Development Plan Update Programmatic Environmental Assessment at Joint Base Anacostia-Bolling, Washington, D.C.* (Appendix F) was used to assess long-term traffic noise impacts. The analysis compared Alternative 1 to the No Action Alternative, which accounts for forecasted traffic volumes, including trips from approved planned developments and growth in vehicle trips from outside the study area through 2030. Leckie Elementary School and nearby residences located off Chesapeake Street SW would experience traffic volumes similar to those under the No Action Alternative, with a minor increase of 0.2 percent in the evening. Traffic on Malcolm X Avenue SE could increase by approximately 5 percent in morning and evening peak hours under Alternative 1. The predominant sources of noise in this area are from vehicular traffic on South Capitol Street and I-295, and helicopter and aircraft operations. Given that the ambient noise environment is typical of an urban environment, the minor increase in vehicles would not result in significant noise effects on the surrounding population.

Summary

The ambient noise environment adjacent to the installation is considered noisy urban and very noisy urban. Major roadways, including I-295, and a tree buffer lie between the eastern edge of JBAB and the adjacent neighborhoods, which would reduce the noise level that off-installation populations would experience. Noise from construction activities would be intermittent, confined to daytime hours, and short-term. Noise from the projected increase in traffic would be minor. Therefore, it is unlikely that populations working or residing in residences and other noise sensitive receptors would experience noise levels that are uncommon in the existing environment. Noise effects would not be significant.

3.6.3.3 Alternative 2: Alternative Siting for IDP Five-Year Projects

The study area for noise effects includes the Alternative 2 project sites and surrounding areas. Since many of the Alternative 2 project sites would be similar to Alternative 1, noise effects from construction would be similar to Alternative 1. Noise levels from demolition and construction of the proposed projects would diminish with distance from the sites, would only occur during daytime hours, and would be short-term.

Noise from increased traffic over the long-term would be greater along Chesapeake Street SW under Alternative 2 compared to Alternative 1. Under Alternative 2, there would be an approximate 2 percent increase in vehicles traveling along Chesapeake Street SW in the morning and a 28.5 percent increase in vehicles traveling along Chesapeake Street SW in the evening compared to the No Action Alternative. Given this increase, the change in noise levels was estimated. The metric Leq (1 hour) was used to estimate the noise levels from vehicles during peak traffic hours. To estimate Leq, input data included noise levels for a typical passenger car, the time period for the measured levels, and the number of vehicles during a specified hour. For noise levels from passenger cars, data were obtained from tests that

measured noise emissions from road vehicles. At approximately 25 feet, passenger cars traveling about 30 miles per hour emitted sound levels of approximately 73 dBA Lmax (TNO Science and Industry, 2011). Using this input data, calculations were estimated at Chesapeake Street SW in the evening because it has the largest percent increase in vehicles as compared to the No Action Alternative. Under the No Action Alternative, there are 530 vehicles during the afternoon peak hour, which would increase to 681 vehicles under Alternative 2. The estimated noise level from vehicles under the No Action Alternative is 64.7 dBA Leq(1), which increases to 65.8 dBA Leq(1) under Alternative 2 (see Appendix D, Noise Calculations). Therefore, the increase in noise under Alternative 2 is approximately 1.1 dBA Leq(1) as compared to the No Action Alternative. As shown in Table 3-21, changes that are less than 3 dBA are barely perceptible to the human ear.

Vehicles traveling along Malcolm X Avenue SE under Alternative 2 are projected to be slightly less than that of Alternative 1. Given that the ambient noise environment in this area is typical of an urban environment, the increase in vehicles would not produce significant noise effects.

Summary

The noise effects from implementation of Alternative 2 would be similar to those under Alternative 1. It is unlikely that populations working or residing in residences and other noise sensitive receptors would experience noise levels that are uncommon in the existing environment. Noise effects would not be significant.

3.7 Hazardous Materials and Waste

This section discusses hazardous materials, hazardous waste, toxic substances, and contaminated sites.

3.7.1 Regulatory Setting

This section discusses the primary regulations relevant to hazardous materials and waste. Under the Resource Conservation and Recovery Act (RCRA; 42 U.S.C. 6901 et seq.), the USEPA has the authority to control hazardous waste from, "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA creates the framework for the proper management of both hazardous and nonhazardous solid waste. The Air Force Manual 32-7002 outlines comprehensive guidelines for the management of hazardous materials and waste. This manual establishes the Hazardous Materials Management Process as an essential part of the DAF Environmental Management System. The Hazardous Materials Management Process is designed to ensure compliance with various federal laws, such as the RCRA. The Toxic Substances Control Act of 1976 (15 U.S.C. 2601 et seq.) provides the USEPA with the authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. In April 2024, the USEPA designated two PFAS—perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), including their salts and structural isomers—as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. This rulemaking requires entities to immediately report releases of PFOA and PFOS that meet or exceed the reportable quantity to the appropriate entity. Further detail regarding the regulatory setting for hazardous materials and waste can be found in Appendix A of this EA.

3.7.2 Affected Environment

Hazardous materials used or stored on the installation include various organic solvents, chlorine, Freon, paints, thinners, oils, lubricants, compressed gases, pesticides, herbicides, nitrates, chromates, stripping materials, waste oils, waste paint-related materials, and other miscellaneous waste. A detailed tracking and accounting system known as the DAF Enterprise Environmental, Safety, and Occupational Health Management Information System (EESOH-MIS) is used to identify potentially hazardous materials and

ensure that organizations are approved to use specific materials (U.S. Air Force, 2021). Contractors working on JBAB are responsible for compliance and reporting parameters to the installation Civil and Infrastructure Engineering department to report any hazardous materials brought to, used, stored on, or discovered at JBAB. No hazardous materials are left on a project site once complete.

The DAF has initiated numerous programs on the installation to track, manage, and minimize the use of hazardous materials and the generation of hazardous waste, including but not limited to the DAF EESOH-MIS, Spill Prevention, Control, and Countermeasure guidelines, and Asbestos Management and Operation Plan. The installation's Spill Prevention Response Plan outlines strategies and procedures to minimize the risk of spills, including regular inspections, maintenance of equipment, and employee training. Any releases of hazardous material specific to any building or tenant facility on JBAB must be addressed via a supplement to the April 2022 General Base Wide Environmental Baseline Survey for JBAB (JBAB, 2022d). The following sections detail various types of hazardous materials and waste found at JBAB.

3.7.2.1 Hazardous Materials and Petroleum Products

Hazardous materials brought onto JBAB or taken off JBAB (as waste) must be coordinated through the 11th Civil Engineer Squadron Environmental Element. Safety data sheets and material volume are required prior to a product being brought on base. Shipping documents must be signed by an 11th Wing-delegated staff member.

Several hazardous waste Initial Accumulation Points are located throughout the installation. Waste is collected and transported to the main storage facility, which is located on the installation, by contractors who support the 11th Civil Engineer Squadron Environmental Element staff. The Defense Logistics Agency is responsible for the final disposition of hazardous waste.

Numerous facilities at JBAB utilize and store petroleum products, ranging from small heating oil tanks to large underground storage tanks used to store aviation fuel. These tank systems are managed by the 11th Civil Engineer Squadron and are currently compliant with regulations with no known releases. Past releases of petroleum products have occurred on JBAB and have been addressed or are being addressed by the Environmental Restoration Program (ERP).

There are 75 aboveground storage tanks and 45 drum sites (which are considered aboveground storage tanks as per the Spill Prevention, Control, and Countermeasure guidelines) located on JBAB that require monthly inspections. In addition, there are 18 underground storage tanks located on JBAB; all of which are registered, regulated, and managed under the installation's underground storage tank program. The 2022 Environmental Baseline Survey indicates that there are no known leaks or compliance violations in relation to these systems.

3.7.2.2 Toxic Substances

Asbestos. In 2007, an inspection of 255 of JBAB's 467 buildings and structures was conducted for the presence of ACM (JBAB, 2012). These inspections and additional surveys identified ACM comprised of floor surfacing materials in one structure, Building 1304. This information is detailed in the respective asbestos survey reports and in the asbestos database. No asbestos inspection information is currently available for the buildings and structures that were not inspected. Structures with construction dates before 1989, the year USEPA regulations were promulgated to restrict the use of ACM, may contain asbestos.

Lead-Based Paint. In 1995, the installation conducted a limited LBP survey of housing units and designated priority non-housing facilities. Housing was surveyed in eight phases based on complexes with similar floor plans, construction histories, and painting histories. Additionally, nine priority non-

housing facilities were surveyed. The survey found LBP present in three of eight housing areas and five of nine non-housing buildings. Since the survey, most of the buildings identified as containing LBP have been demolished and rebuilt. There are still numerous buildings on the installation that were constructed before 1978 that likely contain LBP.

Polychlorinated biphenyls. Records included in the 2005 *Military Housing Privatization Initiative Environmental Baseline Survey* indicate that all PCBs were removed from the installation. In addition, a previous survey of existing transformers completed in 1997 indicated there were no PCBs within any transformers on the installation. As the DoD removed PCB transformers from installations throughout the 1980s, it is presumed that the transformers on the former Naval Support Facility Anacostia portion of JBAB are now also PCB-free. Thus, effects due to PCBs are not further analyzed.

Per- and Polyfluoroalkyl Substances. The DAF drafted a Preliminary Assessment for JBAB regarding select PFAS compounds subject to future federal environmental regulations. Of particular concern are PFOS, PFOA, and perfluorobutane sulfonic acid (PFBS), which are components of aqueous film-forming foam (AFFF) used by the aviation industry and military aviation for fire suppression. The Preliminary Assessment identified a former fire training area parking lot, fire station and neighboring Base Personnel Center (Building 5/16), and Building 398 as requiring further investigation for PFAS releases (NAVFAC Washington, 2022). Giesboro Park, where Proposed Project 3 would occur under Alternative 1 and Proposed Project 2 would occur under Alternative 2, is within a former fire training area not identified as a potentially contaminated site. The operational timeframe of the training area predates the use of AFFF and the site was approved for "no further action" in 2006 (NAVFAC Washington, 2022).

Radon. USEPA rates Washington, DC as radon zone 2. Areas in radon zone 2 have a moderate potential with predicted average indoor radon levels between 2 and 4 picocuries/liter (USEPA, 2023d). The DAF and the Navy have conducted testing of representative structures throughout JBAB for the presence of radon gas. Results for 100 percent of the structures tested were below the USEPA regulatory permissible level of 4 picocuries/liter and no further assessment or remediation was required (JBAB, 2022d). Therefore, radon will not be discussed further in this EA.

Pesticides. USEPA regulates pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act, which provides the basis for the regulation, sale, distribution, and use of pesticides in the United States. The term pesticide encompasses all pesticides, herbicides, and algaecides used on JBAB. All JBAB pest management personnel who apply or supervise the application of pesticides must be trained and certified within two years of employment in accordance with the DoD Plan for the Certification of Pesticide Applicators of Restricted Use Pesticides, and all contractor pesticide applicators must hold a Pesticide Applicator Certificate issued by DOEE. According to the 2022 Environmental Baseline Survey, there are no known violations associated with pesticide use or storage at the installation; therefore, effects from pesticides are not further analyzed.

Medical or Bio-hazardous Waste. Medical waste is generated by the medical facilities on the installation and managed and disposed of via an environmental compliance contract. There are no known issues or concerns regarding the management and disposal of medical waste. As do the current facilities, the proposed MDS Clinic would follow applicable federal, state, and local regulations. Thus, medical or bio-hazardous waste will not be discussed further in this EA.

3.7.2.3 Environmental Restoration Program

ERP activities, which are conducted under the authority of the Defense Environmental Restoration Program, have been ongoing at JBAB since the late 1980s to identify, characterize, and clean up releases from past contaminated material handling and previously accepted disposal and demolition operations. These past operations include motor vehicle and aircraft fueling and maintenance, chemical and material

storage, and airfield facilities construction, operation and maintenance, and demolition. Prior to the realignment of the former facilities, investigations of Installation Restoration Program sites within the former Bolling AFB were conducted by the DAF whereas the Navy conducted investigations of ERP sites within the former Naval Support Facility Anacostia.

There are 32 established ERP sites on JBAB, two of which are Military Munitions Response Program (MMRP) sites and four of which are considered active. These active sites consist of the Metro Fill Dump (Site 00002), Basewide Metals Operable Unit (Site 0014B), Potomac Operable Unit (Site 0015B), and the Southwest Corner Landfill (LF-06/Site 0008B). Currently, the ERP is managing the investigation of the Metro Fill Dump, Basewide Metals Operable Unit, and Potomac Operable Unit sites under a single effort to address groundwater across the installation.

The Basewide Metals Operable Unit investigation addresses metals in groundwater, the Potomac Operable unit addresses the migration of nonmetal contaminants into the Potomac River from groundwater, and the Metro Fill Dump sites and North–End Landfills are being addressed as a potential source area for metals contamination. The Southwest Corner Landfill Site 0008B is currently in long-term management/monitoring. This landfill of dredged material from the Potomac River is covered with a parking lot that serves as an impermeable cap. Monitoring and maintenance of the cap/parking lot is required at this location as described in the signed decision document.

The ERP site known as Building 168 is considered closed by the DoD but still open by the DOEE. There have been no recent discussions of DoD reopening this site. A field investigation conducted in 1992 and subsequent human health risk assessment concluded Building 168 does not pose a health hazard to those working in the area (JBAB, 2024). The remaining sites are considered closed by DoD, requiring no further remedial action. Figure 3-8 and Figure 3-9 depict the ERP site locations near the Alternative 1 and Alternative 2 project sites, respectively. Table 3-24 lists the active ERP sites.

Table 3-24: Active ERP Sites at JBAB

ERP Site Number	Site Title	Approximate Distance to Closest Proposed Project Site
00002	Metro Fill Dump	0 ft
0014B	Basewide Metals Operable Unit	Basewide
0015B	Potomac River Operable Unit	Basewide
0008B	Southwest Corner Landfill	946 ft

Key: ERP = Environmental Restoration Program

DoD's MMRP is an element of the ERP and was instituted to address the potential safety hazards associated with munitions and explosives of concern. Potential munitions and explosives of concern reported include unexploded ordnances, discarded military munitions, and munitions constituents in concentrations high enough to pose an explosion hazard or potential environmental contamination. The MMRP sites consist of small arms and skeet ranges, all of which were closed following investigation. There are no ongoing long-term monitoring programs at the MMRP sites (JBAB, 2024).

Construction plans for projects located within the prior Washington Navy Yard firing fan identify the appropriate explosives response team if ordnance is found during construction. None of the proposed projects would be located directly within the firing fan. In addition to the MMRP sites described above, there is a history of ordnance use dating back to the Civil War, which pose a potential source of concern for the installation. During the Civil War, much of the northern portion of JBAB had not been filled by dredge spoils and was below water. Testing of naval ordnance occurred at the Washington Navy Yard across the Anacostia River, and it is believed that ordnance was targeted in the waters now covered by the

dredged material that forms the northern portion of JBAB. Therefore, it has been speculated that munitions are potentially present in the dredge spoils at a few of the proposed project sites.

Emerging Contaminants (per- and polyfluoroalkyl substances—PFAS)

The Air Force Civil Engineer Center is performing Preliminary Assessments and Site Inspections at Air Force installations nationwide, sampling for PFAS based on the current or potential historical use of AFFF. The focus of the investigation is on six PFAS presented in the 06 July 2022 Office of the Assistant Secretary of Defense memorandum, *Investigating Per- and Polyfluoroalkyl Substances within the Department of Defense Cleanup Program* (ASD, 2022).

A Preliminary Assessment of JBAB of Fire Training Areas (FTAs) and non-FTA sites was completed at JBAB in 2022 as part of a Navy-wide installations assessment of potential historical releases and use of PFAS. Field activities such as identifying and characterizing potential PFAS releases and identifying potential receptors on the installation (within one mile of the installation boundary) were among the many field activities performed in support of the Preliminary Assessment (NAVFAC Washington, 2022).

The Preliminary Assessment report provided a summary of 51 areas that were evaluated for a potential release of PFAS that could pose a potential threat to human health and the environment. The 51 areas are categorized by group as follows:

- Group 1—Confirmed PFAS Release Area to be further evaluated (1 area).
- Group 2—Suspected PFAS Release Area to be further evaluated (2 areas).
- Group 3—No release identified; recommended for No Further Action (48 areas).

Areas identified in the Preliminary Assessment area Parking Lot FTA, Building 5/16 Fire Station (*Suspected PFAS Release Areas to be Further Evaluated*), and Building 398—Aircraft Hangar (*Confirmed PFAS Release Area to be Further Evaluated*).

In 2023, a Site Inspection was performed. The purpose was to determine whether any of the six PFAS are present at concentrations above the applicable screening levels at that time, which are presented in the 06 July 2022 guidance from Assistant Secretary of Defense (ASD, 2022) and based on USEPA Regional Screening Levels. Soil and groundwater sampling was conducted at AFFF Release Areas 1, 2, and 3 to clearly document either No Further Response Action Planned status or advancement of the site to the Remedial Investigation phase. Field activities were conducted in June 2023. Analytical results indicate the presence of PFOS and perfluorohexanesulfonic acid (PFHxS) in soil, and PFOS, PFOA, PFBS, perfluorononanoic acid (PFNA), and PFHxS in groundwater, at concentrations that exceed their respective screening levels. The exceedances were present at all three AFFF Release Areas as follows:

- AFFF Release Area 1: Parking Lot FTA—PFOS (soil); PFOS, PFOA, and PFHxS (groundwater)
- AFFF Release Area 2: Building 5/16—PFOS (surface soil, soil); PFHxS (soil); PFOS, PFOA, PFBS, PFNA, and PFHxS (groundwater)
- AFFF Release Area 3: Building 398—Aircraft Hangar—PFOS (surface soil, soil); PFOS, PFOA, and PFHxS (groundwater)

It was concluded based on the investigation results of the Site Inspection, that soil and groundwater at AFFF Release Areas 1, 2, and 3 represent potential unacceptable risks to human health or the environment. As of 2025, the Environmental Restoration Program is currently executing a Remedial Investigation – Phase I to fully characterize the nature and extent of risk posed by PFAS contamination and conduct human health, and ecological risk assessments at JBAB.

Figure 3-8: Environmental Restoration Program Sites Near Alternative 1 Project Sites

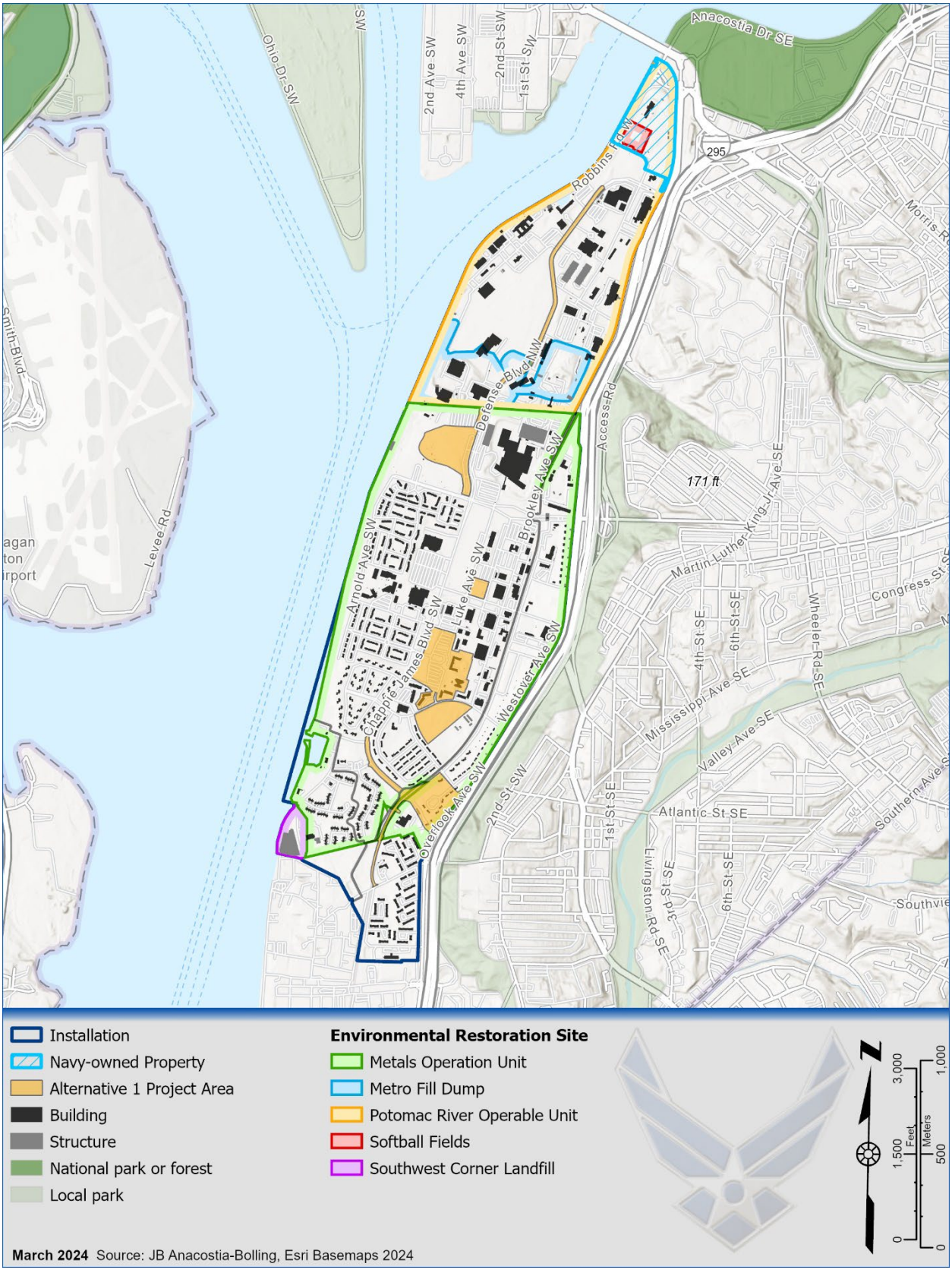
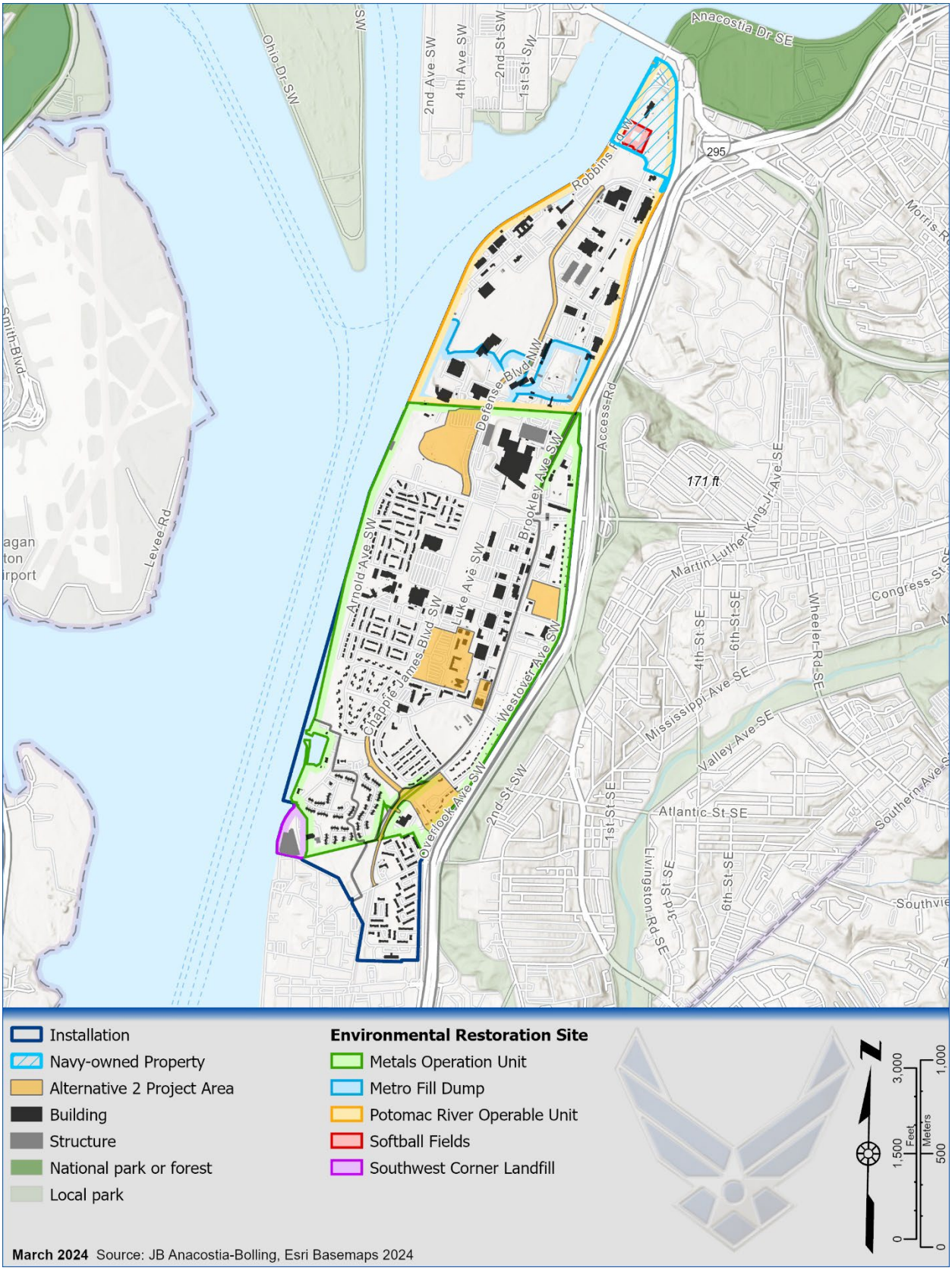


Figure 3-9: Environmental Restoration Program Sites Near Alternative 2 Project Sites



3.7.3 Environmental Consequences

3.7.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change associated with hazardous materials and waste. Therefore, no significant effects would occur under the No Action Alternative.

3.7.3.2 Alternative 1: Implement IDP Five-Year Projects

Hazardous Materials, Petroleum Products, and Hazardous Waste. Construction contractors would ensure the handling and storage of any hazardous materials and petroleum products are carried out in compliance with applicable laws and regulations. Construction equipment would use small quantities of hazardous materials and petroleum products (such as solvents, hydraulic fluid, oil, antifreeze, and other hazardous materials) for minor equipment servicing and repair activities. Should any hazardous materials or petroleum products be released into the environment, applicable management plans such as the installation's Spill Prevention Response Plan would be adhered to. The severity of a potential impact from an accidental release would vary based on the extent of a release and the substance(s) involved. In addition, implementation of BMPs and environmental protection measures would reduce the potential for an accidental release of hazardous materials. BMPs include maintaining construction equipment according to the manufacturer's specifications and placing drip mats under parked equipment as needed. The hazardous and petroleum waste generated would be handled and disposed of in accordance with federal, state, and local regulations. Thus, construction and demolition activities would result in short-term, negligible to minor environmental effects from hazardous materials, petroleum products, and hazardous waste.

Should unknown, potentially hazardous or contaminated waste be discovered or unearthed during construction and demolition, construction contractors would immediately cease work. The project proponent or architect-engineer contractor would conduct a Toxicity Characteristic Leaching Procedure analysis and await results before taking any further action. Any waste determined to be hazardous would be turned over to the Project Manager for forwarding to the Hazardous Waste Program Manager. The waste would be managed or disposed of in accordance with applicable laws and regulations. The Hazardous Waste Program Manager must sign any manifests for shipping hazardous waste off the installation.

Negligible amounts of hazardous materials such as paints, adhesives, solvents, and cleansers would be used during operation and maintenance of the new infrastructure. Should any hazardous materials or petroleum products be released into the environment during operation or maintenance of the new infrastructure, applicable management plans such as the installation's Spill Prevention Response Plan would be adhered to. Operation and maintenance of the new infrastructure would result in long-term, negligible environmental effects from hazardous materials and petroleum products.

Toxic Substances. Because of its age (first built in the 1970s), Blanchard Barracks, which is proposed for demolition under Project 1, is assumed to contain both ACM and LBP. Prior to demolition, surveys would be completed, as necessary, by a certified contractor to ensure that appropriate measures are taken to reduce the potential for exposure to, and release of, toxic substances. Contractors would wear appropriate personal protective equipment and adhere to all federal, state, and local regulations as well as the installation's management plans for toxic substances. Should any materials be confirmed as ACM or LBP during demolition activities, remediation would be required and those materials would be handled and disposed of in accordance with applicable federal and District regulations. New construction is not likely to include the use of toxic substances because federal policies and laws limit their use in building

construction applications. Thus, short-term, minor effects would result from the potential human exposure to toxic substances.

Under Alternative 1, Project 5 would be constructed near the former parking lot fire training area identified as a potential PFAS site. AFFF released within the fire training area prior to 2010 could have been transported via surface water runoff onto adjacent, grass-covered areas or to stormwater inlets. The groundwater flows west from the parking lot to where it discharges into the Anacostia River. Similarly, the stormwater flow in the vicinity of the parking lot follows local topography west toward the Anacostia River (NAVFAC Washington, 2022). Project 5 is situated southeast of the parking lot; therefore, it is not likely that PFAS would have settled in the project site or that PFAS would be encountered during construction; however, further site investigation is warranted and early communication with the JBAB Environmental Restoration Program office would occur in accordance with DAF guidance (DAF, 2025). Should the site investigation reveal that PFAS is present, construction would stop, and applicable environmental compliance regulations would be followed. If PFAS is present, depending on the concentrations in the soil, the construction area would be managed as a cleanup site to avoid tracing contaminated soil onto local roadways. With regulatory approval, excavated contaminated soil and groundwater can be placed back at the construction site as long as it is documented for possible future investigations. PFAS treatment technologies are still being developed; however, during the project design phase, the Environmental Restoration Program office may be able to identify technologies suitable for site-specific contaminants and conditions, if applicable and available. If PFAS is present, all project work would conform to Occupational Safety and Health Administration requirements and DAF guidance (DAF, 2025).

Demolition of facilities containing toxic substances would result in long-term, negligible, beneficial effects from the reduced potential for human exposure to and reduced amounts of ACM and LBP. PFAS discovery is unlikely; however, if encountered, it would be dealt with accordingly to applicable environmental regulations and DAF guidance. No short- or long-term environmental effects from toxic substances are expected from operation and maintenance of the new infrastructure.

Environmental Restoration Program. Effects on or from ERP sites could result from construction and demolition activities. Before construction of a proposed project, JBAB would coordinate with DOEE, and activities would adhere to the guidelines established by the installation and DOEE. Should potentially hazardous waste be discovered or unearthed during demolition, the contractor would immediately cease work, contact appropriate installation personnel, and await sampling and analysis results before taking further action. Waste determined to be hazardous would be managed or disposed of in accordance with applicable laws and regulations. Monitoring wells in the surrounding area would be clearly marked and avoided to ensure no damage occurs during demolition activities.

Currently, the JBAB ERP office is investigating the presence of POL products (free product) in water that has infiltrated the communications lines/vaults on the northern portion of the installation. This investigation is being conducted as part of the investigations of Site 0015B (Site name: 00013, Potomac River Operable Unit). Therefore, there is a potential for encountering the presence of petroleum in groundwater at JBAB. However, as stated above, should potentially hazardous materials be discovered during demolition, the contractor would immediately cease work, contact appropriate installation personnel, and await sampling and analysis results before taking any further action.

The Project 5 site lies approximately 125 feet outside the firing fan used for prior Washington Navy Yard testing across the Anacostia River. However, ordnance may be encountered within the dredge spoils of the project site. The ERP office's discussions with USACE on this issue have resulted in a recommendation that construction workers complete awareness training regarding Civil War artillery munitions and that if encountered, work must stop until the munitions are addressed by the installation Explosive Ordnance Disposal personnel.

The Project 5 site overlaps with two active ERP sites, Site 00002 (Site name: Metro Fill Dump) and Site 0015B. The other proposed projects overlap with another ERP site, Site 0014B (Site name: SS012, Base Wide Metals Operable Unit. These sites remain active as the ERP continues to investigate groundwater across the installation. For groundwater, short-term effects associated with generation of hazardous waste is expected to occur as a result of construction activities. Stormwater BMPs would be in place, including a DOEE-approved Sediment and Erosion Control Plan, and adherence to the Energy Independence and Security Act (Section 438) and DOEE Stormwater Management Guidebook. Such BMPs would minimize and eliminate surficial migration of contaminated soil.

The land-use restrictions on the active ERP sites are not constraining to future development, though development of active sites would require close coordination with installation environmental personnel to ensure that ongoing investigation and/or remediation would not be affected and that proper land use controls are maintained (JBAB, 2022a). New infrastructure would be constructed and operated in accordance with applicable federal, state, and local laws and regulations. Therefore, Alternative 1 would result in short-term, minor, adverse effects from the removal of special hazards and construction within active ERP sites, but long-term, negligible, beneficial effects from the reduced potential for future human exposure to and reduced amounts of special hazards at JBAB.

Summary

Overall, Alternative 1 would result in short-term, minor adverse effects during demolition and construction. Alternative 1 would result in long-term, negligible beneficial effects on hazardous materials and waste management from reduced amounts of ACM, LBP, and other special hazards. There would be no significant environmental effects from hazardous materials or waste under Alternative 1.

3.7.3.3 Alternative 2: Alternative Siting for IDP Five-Year Projects

Under Alternative 2, environmental effects from hazardous materials and waste would be similar to those expected from Alternative 1. However, Alternative 2 would also involve the demolition of Building 1304. ACM were identified within the building's floor tiles in 2017, which have since been abated (JBAB, 2022d). Therefore, Alternative 2 would result in no significant environmental effects from hazardous materials or waste.

Summary

Overall, Alternative 2 would result in similar environmental effects from hazardous materials and waste as Alternative 1. No significant effects would occur.

3.8 Transportation

A transportation system, which can be studied on a local or regional scale, can consist of the following: roadways, bus routes, railways, subways, bikeways, trails, waterways, airports, and taxis. Potential transportation-related effects associated with implementing the Proposed Action are examined in this EA for the pedestrian network, the bicycle network, public transit, and traffic (vehicular).

Intersection performance is commonly measured with peak hour traffic volumes that are used to calculate delay per vehicle, queue lengths, and volume to capacity (v/c) ratios, although these measures are vehicle-focused and do not account for the operational and safety needs of pedestrians and cyclists on roadways and at intersections, especially in an urban context. Delay is used to assign the intersection and its approach roads and individual movements with a corresponding level of service (LOS) and to determine whether turn lane lengths and distances between adjacent signalized intersections are adequate. The LOS designation is a transportation industry standard often used to describe the perceived operating conditions of a roadway segment or intersection, based on delay per vehicle. LOS is defined on a scale of A to F to describe the range of operating conditions for vehicles on a particular type of roadway facility. In urban

settings, LOS A and LOS B indicate minimal delay and short queues, while LOS C indicates moderate delays and queuing. LOS D indicates more substantial delays and longer queues, and LOS E indicates the point at which the volume needing to pass through the intersection in one hour exceeds the ability of that intersection to allow all of it to pass through in one hour. LOS F indicates long vehicle queues and high delays at intersections, where some vehicles must wait for more than one red-yellow-green signal cycle before proceeding through the intersection, and queues may exceed turn lane lengths or extend back into adjacent intersections.

DDOT's Comprehensive Transportation Review (CTR) guidelines state that the threshold for acceptable intersection performance in Washington DC, may be LOS E or LOS F, determined on a case-by-case basis. DDOT's CTR also establishes thresholds for acceptable increases in queue lengths and v/c ratios. Projects that result in these criteria being exceeded are considered to cause significant effects. In urban settings, adding capacity to achieve acceptable LOS, queues, or v/c ratios is typically not feasible because limited rights-of-way; nor is it desirable due to the number of additional travel lanes that may be required, which would make the intersection less safe for pedestrians and cyclists. If significant effects cannot be mitigated by implementing geometric changes (e.g., adding lanes) or by making traffic control adjustments (e.g., converting stop sign control to a roundabout or a traffic signal, adding protected turn phases to existing traffic signals, allocating more green signal time to movements experiencing high delays and long queues), then Transportation Demand Management strategies should be considered. Example Transportation Demand Management strategies include limiting the availability of free parking spaces (which encourages carpooling), providing transit fare subsidies, providing access to Bikeshare stations, or implementing telework policies, and more. After all reasonable mitigation options have been considered, if the significant effects remain, then the developer may be given the option of contributing to the Transportation Mitigation Fund.

3.8.1 Regulatory Setting

Prior to initiating the transportation study for this EA, it was essential to determine what analysis tools, data parameters, and assumptions would provide the basis of the analysis. The DAF prepared the District Department of Transportation (DDOT) Comprehensive Transportation Review (CTR) Scoping Form that contained the assumptions for the transportation study covering all relevant travel modes. The DAF met with DDOT on May 22, 2024, to review the assumptions and begin the CTR process for both parties to come to a final agreement.

DDOT, through the CTR Guidance (DDOT, 2022), provides the following requirements for the transportation study: a study area definition, analysis years, analysis methods, No Action Alternative assumptions (i.e., background growth, planned developments, and planning roadways), and Action Alternative assumptions (i.e., trip generation, trip distribution, and modal split). The transportation study, including the final DDOT CTR Scoping Form, developed for this Proposed Action is included as Appendix F.

3.8.2 Affected Environment

This section defines the transportation study area and summarizes existing conditions therein as of December 2024. This discussion covers the following modes of transportation: pedestrian network, bicycle network, public transit, and traffic (vehicular). Existing parking conditions are also discussed.

3.8.2.1 Study Area Definition

The transportation study areas were delineated based on the DDOT CTR Guidance (DDOT, 2022) and focus on the Firth Sterling Avenue SE, South Capitol Street, Overlook Avenue SW, and Malcolm X Avenue SE corridors. A different study area is proposed for each transportation mode:

- The pedestrian network study area matches the traffic study area corridors directly adjacent to the gates.
- The bicycle network study area consists of a 1-mile radius from each of JBAB's three gates to represent a typical distance that a visitor or employee might be willing to use a bicycle to reach the installation. DDOT CTR guidelines require at least a half-mile radius bicycle study area.
- The public transit study area consists of a 0.25-mile radius for Washington Metropolitan Area Transit Authority (WMATA) Metrorail stations and bus stops.
- The traffic (vehicular) study area includes 16 existing intersections to serve the installation, broken into three study areas surrounding the three gates and their respective corridors:

  (1) Firth Sterling Gate (see Figure 3-10): the Firth Sterling Avenue SE corridor between South Capitol Street to the west and Howard Road SE to the east;

  (2) Arnold Gate (see Figure 3-11): the Malcolm X Avenue SE corridor between the South Capitol SE and I-295 northbound ramps; and

  (3) South Gate (see Figure 3-12): the Overlook Avenue SW corridor between Chappie James Boulevard SW to the north and Oberlin Avenue SW/I-295 northbound ramps to the south. These intersections represent locations where traffic volumes may change as a result of the Proposed Action.

Figure 3-10, Figure 3-11, and Figure 3-12 below illustrate the traffic study areas for this analysis. Section 3.2 of the transportation study (Appendix F) describes the roadways in the traffic study area and includes the DDOT roadway functional classification, the number of lanes in each direction, the most recent (2022) annual average daily traffic volumes available from DDOT, and any noteworthy characteristics such as a roadway's role in the transportation network and the presence of bicycle lanes.

3.8.2.2 Data Collection

The vehicular traffic data for this study were originally collected to support the *Large Vehicle Inspection Station and Access Control Point EA and Transportation Study* (DAF, 2024), and it is common professional practice to use available traffic data that has been collected within the past three years for a current study. In this case, the traffic data were collected post-pandemic and after the new Frederick Douglass Memorial Bridge project was substantially completed. Vehicular turning movement counts with pedestrian crossing volumes were collected on Wednesday, November 16, 2022, during weekday AM and PM peak hours (6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m., respectively), during a non-holiday week in mid-November. These times were selected based on typical traffic data from Google Maps' Traffic layer and institutional knowledge of traffic patterns in the study area. In addition, Congress was in session this week, which should present a conservative level of traffic.

In addition to the vehicular turning movements, the team placed automatic traffic recorders (ATRs) at several key locations, including South Capitol Street north and south of Firth Sterling Avenue SE, Firth Sterling Avenue SE between South Capitol Street and Suitland Parkway, and Overlook Drive SW north and south of Chappie James Boulevard (i.e., the JBAB South Gate). The ATRs captured volumes for two consecutive days—Wednesday, November 16, through Thursday, November 17, 2022—recording the volumes in 15-minute increments. ATR data provided a daily log of traffic, highlighting the multiple peak periods and changes in vehicle demand throughout a typical weekday. Appendix F, Section 3.2.1, contains the traffic counts obtained for the study area intersections and more detail to explain the process for developing the existing condition turning movement volumes. Appendix F, Section 3.2.2, summarizes traffic observations made by the transportation team while driving through the traffic study area during the turning movement and ATR counts data collection on Wednesday, November 16, 2022, and Thursday, November 17, 2022.

Figure 3-10: Traffic (Vehicular) Study Intersections — (1) Firth Sterling Gate

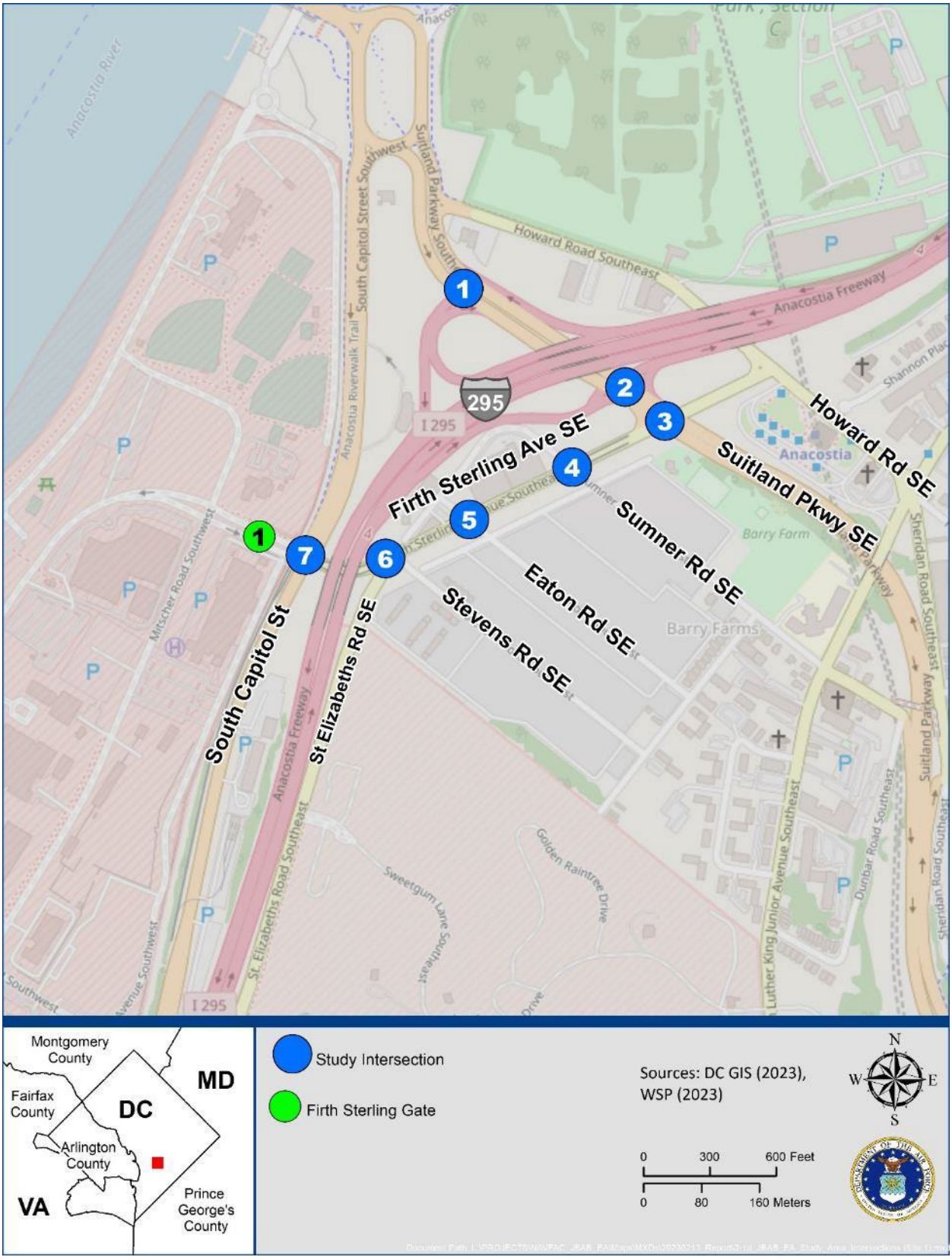


Figure 3-11: Traffic (Vehicular) Study Intersections — (2) Arnold Gate

Figure 3-12: Traffic (Vehicular) Study Intersections — (3) South Gate

Recent crash data from Open Data DC were also obtained for a high-level safety analysis of the three intersections located immediately adjacent to each JBAB gate (ESRI, 2024). The crash data cover six complete years from 2018 through 2023 plus part of 2024. These data provide five full years of pre- and post-pandemic crash data plus data from the 2020 pandemic year for analysis.

3.8.2.3 Pedestrian Network

The existing pedestrian network surrounding the installation was assessed for disruptions or obstacles in the pedestrian environment. In particular, the assessment focused on (1) areas between the defined pedestrian network study area and adjacent bus stops, (2) curb ramp compliance with the ADA, and (3) sidewalk and crosswalk compliance with DDOT standards.

Sidewalks line both sides of most publicly accessible roads in the pedestrian network study area except along on- or off-ramps to expressways or freeways, and recently completed shared-use paths are present along Suitland Parkway and portions of Firth Sterling Avenue SE and South Capitol Street. Intersections generally have reasonable accommodations for pedestrians, including traffic signals with pedestrian indications and crosswalks. In a few instances, however, pedestrian crossings are not accessible due to ramps that are not compliant with ADA design requirements. The transportation team observed a general lack of maintenance for some sidewalks and shared-use paths, with the presence of overgrown vegetation and miscellaneous debris or litter causing obstructions to pedestrian and bicycle movement.

Pedestrian trips near the three gates were predominately completed by commuters. As observed during site visits, South Capitol Street SE and the Department of Homeland Security (DHS) Access Road had the highest level of pedestrian activity. Firth Sterling Avenue SE also had a high level of pedestrian activity, likely from the Anacostia Metro Station. However, moveDC's 2021 update indicates that the area around the three traffic study areas, notably near the Anacostia Metro Station, has a low Pedestrian Friendliness Index. The Pedestrian Friendliness Index is a metric that characterizes the walkability of an area based on sidewalk availability, building accessibility, and street network design (DDOT, 2021a). Detailed information covering the pedestrian environment, including sidewalk widths and the extent of sidewalk coverage in the pedestrian network study areas, as well as compliance with the ADA and DDOT requirements is provided in Appendix F, Section 3.3.

3.8.2.4 Bicycle Network

Existing bicycle facilities within a 1-mile radius from each of JBAB's three gates (referred to as the "three bicycle network study areas" hereinafter) are described in this section. Bicycle and trail data were collected from the DC Geographic Information System and local bicycle plans and were verified with aerial imagery and field visits as needed. Gaps or deficiencies in the bicycle network were also identified. Appendix F, Section 3.4, contains a map showing the bicycle network.

The three bicycle network study areas encompass a range of multiuse trails (also called shared-use paths). The Anacostia Riverwalk Trail (ART), a multiuse trail that travels along both sides of the Anacostia River in northeast and southeast Washington, DC, and along the Potomac Channel in southeast Washington, DC, ends in front of Firth Sterling Gate. Additionally, 27 bicycle racks are located at various locations on JBAB (Figure 3-13), and JBAB is coordinating with Capital Bikeshare to install several Bikeshare stations on JBAB with an anticipated completion date of spring 2025.

Figure 3-13: Existing Bicycle Rack Locations on JBAB

The Anacostia Waterfront Initiative, a collective of 19 regional and federal agency partners led by DDOT, manages the ART. To date, the ART is approximately 20 miles long with additional planned segments to ultimately achieve 28 miles. Planned segments aim to fill in connectivity and accessibility gaps. The South Capitol Street Trail Project will extend the ART south along Overlook Avenue adjacent to JBAB, which is an improvement that has already received funding (Anacostia Waterfront Initiative, 2022). Key project elements of the ART include expanding shared-use paths and educational signage, enhancing trail viewsheds to bring trail users closer to the water's edge, and minimizing adverse effects on the natural environmental from paving and other trail infrastructure (Anacostia Waterfront Initiative, 2024).

The Fredrick Douglass Memorial and 11th Street Bridges both have multiuse trails that cross the Anacostia River and connect to the ART within the bicycle network study areas. Across all three study areas, the JBAB Waterfront Trail runs along the waterfront of the Potomac River. The Suitland Parkway, Oxon Run, and Dorothea Dix multiuse trails are also within the bicycle network study areas. In addition to these multiuse trails, a limited number of bicycle lanes and signed bicycle routes connecting to various points in Anacostia serve the bicycle network study areas and connect to some of the gates. Appendix F, Section 3.4.1 contains maps that illustrate the bicycle facilities within each of the three bicycle study areas, focused on a 1-mile radius from JBAB's three gates. Appendix F, Section 3.4.2, contains detailed information regarding bicycle network gaps and barriers.

Capital Bikeshare is an automated bicycle-sharing system serving the DC metro area. As of December 2022, Capital Bikeshare was operating approximately 17 bikeshare stations within a 1-mile radius of the of the three gates (Capital Bikeshare, 2022). Appendix F, Section 3.4.3, contains detailed information regarding Capital Bikeshare station locations and ridership.

3.8.2.5 Public Transit

Multiple modes of public transit are present in the public transit study area, including Metrorail lines, local and commuter buses, and DoD-to-DoD shuttles. The transportation team assessed existing transit conditions in May 2024, and this analysis reflects the data available at that time. Appendix F, Section 3.5, contains maps showing the transit network within a 0.25-mile radius from JBAB's three gates.

The public transit study area is served by the WMATA Metrorail Green Line, which is located approximately 0.5-miles east of the Firth Sterling Gate via the Anacostia Metro Station, with one entrance at Howard Road SE south of Firth Sterling Avenue SE and one entrance at the Anacostia Metro Station parking garage. Based on information gathered from WMATA's Rail Ridership Data Viewer, the Anacostia Metro Station had an average of 4,370 weekday passenger boardings in 2023 (WMATA, 2023a). Appendix F, Section 3.5.1, contains detailed information regarding WMATA Metrorail headways (the time interval between trains) and hours of operation. No heavy commuter rail corridors pass through the transit study area, and no nearby transfer points exist for commuter rail to the study area.

WMATA provides local bus service throughout Washington, DC, and neighboring jurisdictions, including operating 15 WMATA bus lines within a quarter-mile radius of the study area. Most bus lines operate with weekday AM peak period headways of between 10 and 20 minutes, although some bus lines have headways as long as 30 minutes. Appendix F, Section 3.5.2.1, contains detailed information regarding WMATA Metrobus headways and hours of operation, ridership, and a capacity assessment.

In Maryland, the Maryland Transit Administration (MTA) operates one commuter bus route (Route 630) that stops in the public transit study area serving Washington, DC and stops in Prince George's and Charles Counties in Maryland. This route serves Arnold Gate and South Gate with eight northbound/inbound trips in the morning and six southbound/outbound trips in the evening on the regular schedule. On special schedule days, only four northbound trips and four southbound trips are available. On inbound trips, the stops near Arnold and South Gates are drop-off only. On outbound trips, these stops

are pickup-only. The MTA operates eight additional commuter bus routes that use I-295 just south of Firth Sterling Gate; however, no route has a bus stop near the gate. Appendix F, Sections 3.5.2.1 and 3.5.2.2, contain detailed information on the service areas, headways, and span of service for the DC Circulator bus route and MTA commuter bus routes.

Several mission partner-operated shuttle bus routes serve JBAB. These shuttles connect JBAB with other DoD agency offices. The DoD-to-DoD facility shuttle transports individuals who need to travel between DoD facilities during the workday (DAF, 2021).

3.8.2.6 Truck Access

DDOT has established truck routes and placed truck restrictions throughout the city to identify specific routes for trucks to travel while inside Washington, DC. Within the study area, South Capitol Street SE and I-295 have been established as primary truck routes. There are no truck restrictions on any of the roads within the study area, although trucks are prohibited from using Suitland Parkway SE (under National Park Service jurisdiction) east of Firth Sterling Avenue SE, which attracts some traffic into and out of the study area. Appendix F, Section 3.6, provides more detail about truck access. This section also provides maps depicting truck access and loading facilities inside the installation.

3.8.2.7 Parking

On- and off-street parking, including metered and unmetered street parking, is sparse in the vicinity of the installation. Underground garages and outdoor surface lots are not present in the parking study area. Information about on-street parking was gathered through site visits on November 15, 16, and 17, 2022 (WSP, 2022). Appendix F, Section 3.7, contains more details regarding the parking space inventory under existing conditions.

3.8.2.8 Traffic (Vehicular)

This section briefly describes the concepts and definitions for analyzing the traffic operations, the process used to analyze the traffic study area intersections, and the results. As previously discussed, the traffic (vehicular) study area includes 16 existing intersections, broken into three study areas surrounding the three JBAB gates and their respective corridors. The complete traffic analysis and results are presented in Appendix F, Section 3.8.

Analysis Tools

The 16 traffic study area intersections were analyzed using Synchro software version 11 (Build 2, Revision 9). Synchro is sufficiently capable for analyzing traditional traffic control devices at intersections such as traffic signals and stop signs. Intersection capacity analyses and intersection queuing analyses were performed. The intersection capacity analyses used Synchro and various input values as described in the following section to determine LOS, which categorizes drivers' perception of an intersection's operation based on the amount of delay they experience. The intersection queuing analyses used Synchro to estimate the average and maximum distance (in feet) that a line of vehicles (i.e., the queue) extends back from an intersection.

Existing Conditions Intersection Operations Analysis

Synchro was used to calculate the vehicle delay and LOS operation based on the Highway Capacity Manual (HCM) method for all signalized intersections. Based on the Synchro analysis, most study intersections operate at LOS D or better during the morning and evening peak hours. However, the

following six signalized intersections in the study area currently operate at LOS E or LOS F using the HCM method (i.e., average control delay exceeds 55 seconds per vehicle):

- Suitland Parkway SE and I-295 Northbound (NB) Off-ramp/I-295 NB On-ramp (Intersection #2, see Figure 3-10) during the AM peak hour
- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3, see Figure 3-10) during the AM peak hour
- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3, see Figure 3-10) during the PM peak hour
- Overlook Avenue SW and Chappie James Boulevard (Intersection #14, see Figure 3-12) during the AM peak hour
- Overlook Avenue SW and Chappie James Boulevard (Intersection #14, see Figure 3-12) during the PM peak hour
- Overlook Avenue SW and Chesapeake Street SW (Intersection #15, see Figure 3-12) during the PM peak hour

Based on the Synchro signalized intersection analysis results, seven signalized intersections have directional approaches that operate at LOS E or LOS F during one or more of the evaluated periods:

- Suitland Parkway SE and I-295 Southbound (SB) Off-ramp (Intersection #1, see Figure 3-10)
    - Off-ramp from southbound I-295 to southeast-bound Suitland Parkway SE during the AM and PM peak hour (shown as the northbound approach in the summary tables)
- Suitland Parkway SE and I-295 NB Off-ramp/I-295 NB On-ramp (Intersection #2, see Figure 3-10)
    - Northwest-bound Suitland Parkway SE during the AM peak hour
- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3, see Figure 3-10)
    - Southbound Suitland Parkway SE during the PM peak hour
    - Northbound Suitland Parkway SE during the AM peak hour
    - Eastbound Firth Sterling Avenue SE during the AM and PM peak hours
    - Westbound Firth Sterling Avenue SE during the PM peak hour
- South Capitol Street and Firth Sterling Avenue SE/Defense Boulevard (Intersection #7, see Figure 3-10)
    - Westbound Firth Sterling Avenue SE during the PM peak hour
- Overlook Avenue SW and Chappie James Boulevard (Intersection #14, see Figure 3-12)
    - Northwest-bound Overlook Avenue SW during the AM peak hour
    - Southeast-bound Chappie James Boulevard during the PM peak hour
    - Southwest-bound Overlook Avenue SW during the PM peak hour
- Overlook Avenue SW and Chesapeake Street SW (Intersection #15, see Figure 3-12)
    - Northbound Overlook Avenue SW during the AM peak hour
    - Southbound Overlook Avenue SW during the PM peak hour
- Overlook Avenue SW and U.S. Naval Research Laboratory (NRL) Main Gate/Laboratory Road SW (Intersection #16, see Figure 3-12)
    - Westbound Laboratory Road SW during the AM peak hour

Appendix F, Section 3.8.3, contains the detailed results and tables related to the LOS capacity analysis and the intersection vehicle delay for existing conditions during the AM and PM peak hours, including the tables with the LOS for specific intersection approaches and movements. Table 3-23 below shows the results of the LOS capacity analysis and the intersection vehicle delay for the existing conditions during the AM and PM peak hour. Note that "Pass" is equal to LOS D or better. "Fail" is equal to LOS E or LOS F. Failing LOSs are highlighted in yellow in Table 3-25.

Table 3-25: Existing Conditions during AM and PM Peak Hour Operations

No.	Intersection	2022 Existing Condition: AM Delay (seconds/vehicle)	2022 Existing Condition: AM LOS	2022 Existing Condition: AM Check	2022 Existing Condition: PM Delay (seconds/ vehicle)	2022 Existing Condition: PM LOS	2022 Existing Condition: PM Check
1	I-295 SB Ramps & Suitland Pkwy SE	21.3	C	Pass	21.5	C	Pass
2	Suitland Pkwy SE & I-295 NB	69.7	E	Fail	15.2	B	Pass
3	Firth Sterling Ave SE & Suitland Pkwy SE	68.8	E	Fail	67.5	E	Fail
4	Sumner Rd SE/Barry Rd SE & Firth Sterling Ave SE	2.2	A	Pass	1.1	A	Pass
5	Eaton Rd SE & Firth Sterling Ave SE	2.0	A	Pass	1.9	A	Pass
6	St. Elizabeth Rd SE & Stevens Rd SE & Firth Sterling Ave SE	14.1	B	Pass	11.6	B	Pass
7	South Capitol St & Defense Blvd/Firth Sterling Ave SE	25.1	C	Pass	28.3	C	Pass
8	S Capitol St SB Ramps & MacDill Blvd SW/Malcolm X Ave SE	11.3	B	Pass	27.9	C	Pass

No.	Intersection	2022 Existing Condition: AM Delay (seconds/vehicle)	2022 Existing Condition: AM LOS	2022 Existing Condition: AM Check	2022 Existing Condition: PM Delay (seconds/ vehicle)	2022 Existing Condition: PM LOS	2022 Existing Condition: PM Check
9	S Capitol St NB Ramps & Malcolm X Ave SE	20.9	C	Pass	10.5	B	Pass
11	I-295 NB Ramp/ Dorothea Dix Ave SE & Malcolm X Ave SE	30.3	C	Pass	8.3	A	Pass
12	I-295 SB Ramps & Crossover	7.0	A	Pass	15.3	B	Pass
13	Dorothea Dix Ave SE & Crossover & I-295 NB Ramp	6.4	A	Pass	3.6	A	Pass
14	Overlook Ave SW & Chappie James Blvd	59.4	E	Fail	149.7	F	Fail
15	Overlook Ave SW & Chesapeake St SW	43.4	D	Pass	61.3	E	Fail
16	Overlook Ave SW & NRL Main Gate/Laboratory Rd SW	51.5	D	Pass	38.9	D	Pass

Key: LOS = Level of Service; Pass = LOS D or better; Fail = LOS E or LOS F
Notes: Synchro signalized intersection analysis; HCM criteria. Delay is measured in seconds per vehicle. Intersection #10 is not included in this table because it is unsignalized.

Existing Conditions Intersection Queuing Analysis

Based on the Synchro signalized intersection analysis results, seven signalized intersections experience 95th percentile queuing lengths that exceed the available storage capacity in at least one lane group. The remaining signalized intersections in the traffic study area provide enough storage for the anticipated demand, or the upstream traffic signals controlled the queue lengths. Details of queuing lengths by lane group for each intersection are provided in Appendix F, Section 3.8.5. The seven intersections that experience 95th percentile queuing lengths are:

- Suitland Parkway SE and I-295 SB Off-ramp (Intersection #1, see Figure 3-10)
- Suitland Parkway SE and I-295 NB Off-ramp/I-295 NB On-ramp (Intersection #2, see Figure 3-11)

- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3, see Figure 3-10)
- Malcolm X Avenue SE and S Capitol Street NB ramps (Intersection #9, see Figure 3-11)
- Overlook Avenue SW and Chappie James Boulevard (Intersection #14, see Figure 3-12)
- Overlook Avenue SW and Chesapeake Street SW (Intersection #15, see Figure 3-12)
- Overlook Avenue SW and NRL Main Gate/Laboratory Road SW (Intersection #16, see Figure 3-12)

Traffic Patterns Along South Capitol Street, Firth Sterling Avenue SE, and Overlook Avenue SW

Appendix F, Section 3.8.8, describes how ATR data were used to analyze existing traffic patterns. The results of the data analysis include the following:

- The dominant flow of traffic along Firth Sterling Avenue SE during the AM peak period is west, toward South Capitol Street and Firth Sterling Gate, away from Suitland Parkway SE (which provides access to and from I-295). The dominant PM traffic flow is east, away from South Capitol Street and JBAB, and toward Suitland Parkway SE.
- The dominant flow of traffic along South Capitol Street during the AM peak period is north toward the Frederick Douglass Memorial Bridge (i.e., the Capitol Riverfront, Capitol Hill, and downtown neighborhoods of Washington, DC), while the dominant PM traffic flow is south, away from the bridge.
- During the morning, Overlook Avenue SW has a northbound peak for traffic traveling toward South Gate.
- During the evening, South Capitol Street and Overlook Avenue SW have a similar 3-hour peak between 3:00 p.m. and 6:00 p.m., consisting primarily of southbound traffic.
- All three corridors have more vehicles heading in the outbound direction away from Washington, DC from 11:00 a.m. through the remainder of the day.

Existing JBAB Transportation Management Program

The JBAB Master Plan contains a Transportation Management Program that includes recommended goals for promoting more efficient employee commuting patterns. These goals include enhancing mobility and transportation options, mitigating future traffic adverse effects related to JBAB's growth and developments, and improving air quality by minimizing the effects of single-occupancy vehicles (DAF, 2022).

An effective Transportation Management Program requires continual monitoring and evaluation to ensure that the strategies that JBAB implements reduce single-occupancy vehicle use and reduce the number of vehicles traveling through the installation area and along internal installation roadways. According to the Transportation Management Program, the installation will strive to improve the existing transit and bicycling infrastructure and communicate transportation options and benefits while pursuing new, alternative modes of transportation. It will work toward reducing employee parking supply to achieve compliance with NCPC parking ratios and coordinate with regional agencies, organizations, and the Department of Homeland Security to improve transportation infrastructure in the area, especially in the corridors that serve both JBAB and the Department of Homeland Security. Finally, the installation will monitor progress toward targeted mode split metrics, support and incentivize sustainable transportation options, and improve transportation options to shorten commute times (DAF, 2022).

Existing Gate Operations

A high-level method approved by the Military Surface Deployment and Distribution Command Transportation Engineering Agency, the military agency that specializes in gate operations, was used to provide a pass/no pass result for the gate queues affecting DDOT intersections. This analysis assumes a nationwide average gate throughput of 375 vehicles per hour per lane for inspection lanes as stated in the Military Surface Deployment and Distribution Command Transportation Engineering Agency Pamphlet 55-15, based on having one inspector per lane.

Table 3-26 compares the existing volume of traffic entering JBAB via each of the three gates with the average throughput (or capacity) of each gate. This analysis indicates the following:

- A greater number of vehicles enter JBAB during the AM peak hour than during the PM peak hour
- Arnold Gate has the highest number of vehicles entering JBAB during both the AM and PM peak hours
- Both Arnold Gate and South Gate currently operate at near-capacity conditions during the AM peak hour.
- Firth Sterling Gate is the least used gate during both the AM and PM peak hours and, therefore, has the most surplus capacity for accommodating entering vehicles.

Table 3-26: Existing Inbound Vehicle Trips vs. Gate Capacity

Existing Inbound Vehicle Trips				
	Gates			
	South	**Arnold**	**Firth Sterling**	***Total***
AM Peak Hour	710	1,112	250	*2,072*
PM Peak Hour	148	243	55	*446*
Existing Surplus Inbound Gate Capacity				
	Gates			
	South	**Arnold**	**Firth Sterling**	***Total***
	2 Lanes	**3 Lanes**	**2 Lanes**	
Capacity (Total)—375 vphpl	750	1,125	750	*2,625*
AM Peak Hour	40	13	500	*553*
PM Peak Hour	602	882	695	*2,179*

Key: vphpl = vehicles per hour per lane

3.8.2.9 Safety

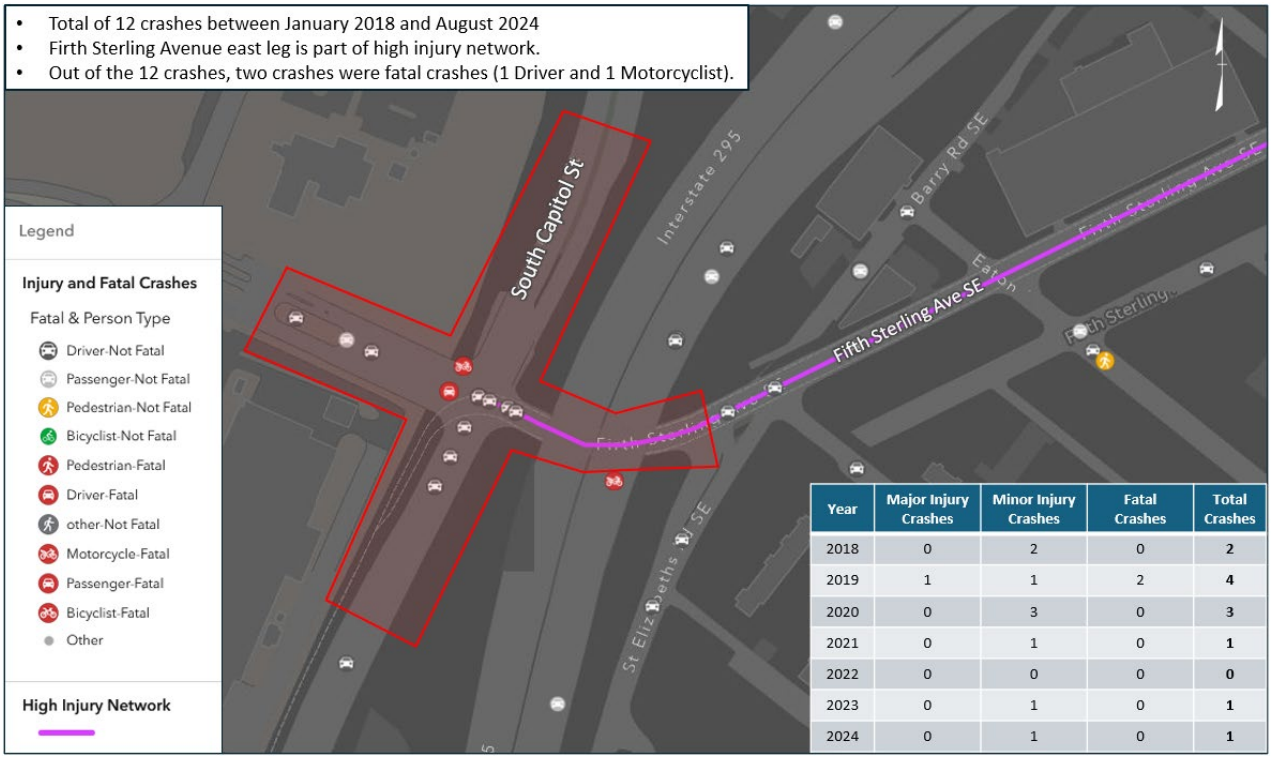
Crash data from January 1, 2018, through August 29, 2024, was obtained and reviewed from Open Data DC and DC Vision Zero, focusing on the three intersections located immediately outside the three JBAB gates. These intersections may experience some effects from increased vehicular trips generated by proposed IDP projects. It is possible that the types of crashes occurring under existing conditions could increase in frequency if traffic volumes at these intersections increase in the future.

According to the available crash data, the following trends were identified at each intersection:

South Capitol Street at Firth Sterling Avenue SE and Defense Boulevard (Firth Sterling Gate)

The South Capitol Street at Firth Sterling Avenue and Defense Boulevard intersection had a combined total of 12 injury or fatal crashes within the crash data analysis period as shown in Figure 3-14. The highest number of crashes per year was four crashes in 2019. In addition, of the 12 crashes, 2 crashes in 2019 were fatal.

Figure 3-14: South Capitol Street and Firth Sterling Avenue/Defense Boulevard Crash Severity by Year (2018–2024)



Year	Major Injury Crashes	Minor Injury Crashes	Fatal Crashes	Total Crashes
2018	0	2	0	**2**
2019	1	1	2	**4**
2020	0	3	0	**3**
2021	0	1	0	**1**
2022	0	0	0	**0**
2023	0	1	0	**1**
2024	0	1	0	**1**

South Capitol Street Exit Ramps at Malcolm X Avenue SE and MacDill Boulevard (Arnold Gate)

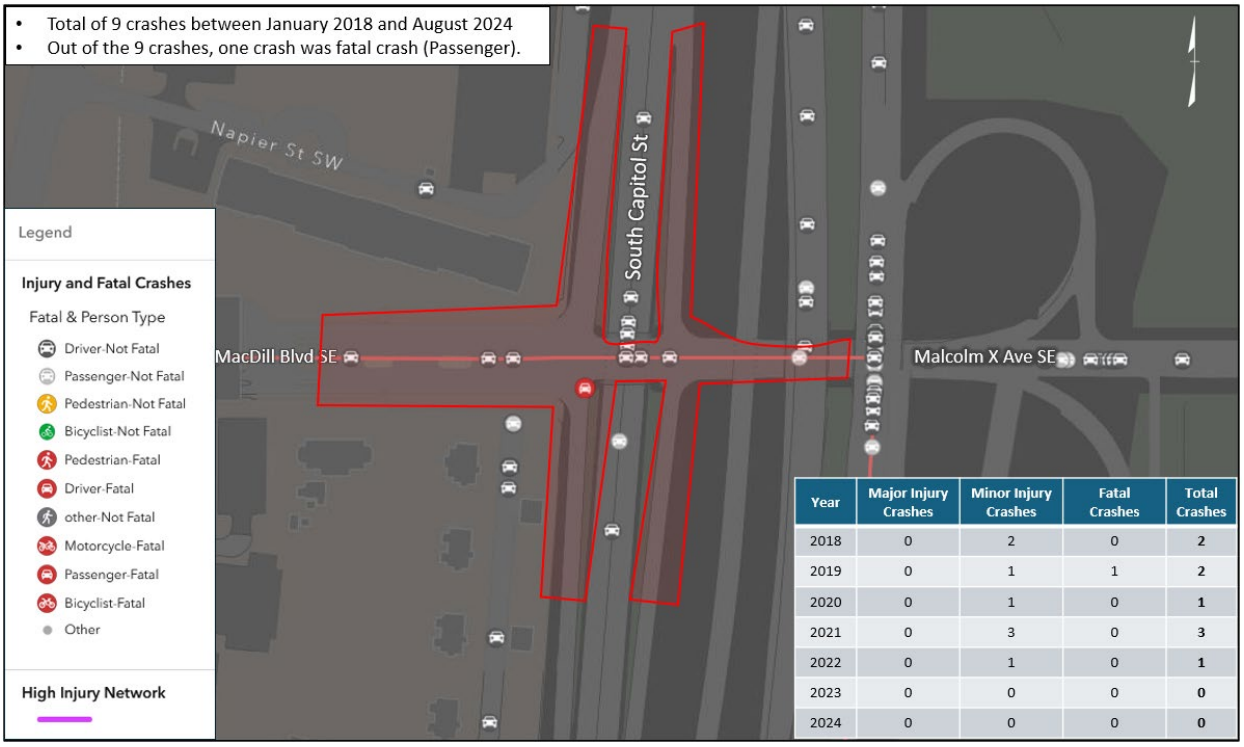
The South Capitol Street Exit Ramps at Malcolm X Avenue SE and MacDill Boulevard had a combined total of nine injury and fatal crashes within the analysis period as shown in Figure 3-15. One of the nine crashes was fatal; this crash occurred in 2019.

Overlook Avenue SW at Chappie James Boulevard (South Gate)

Overlook Avenue SW at Chappie James Boulevard had no injury and fatal crashes within the crash analysis period as shown in Figure 3-16. However, one fatal crash occurred in 2020 on southbound Overlook Avenue SW approaching the adjacent Chesapeake Street SW intersection (i.e., departing JBAB), which technically is grouped with that intersection. One injury crash occurred in 2024 along Chappie James Boulevard on the installation side of the gate, which is technically not part of this intersection.

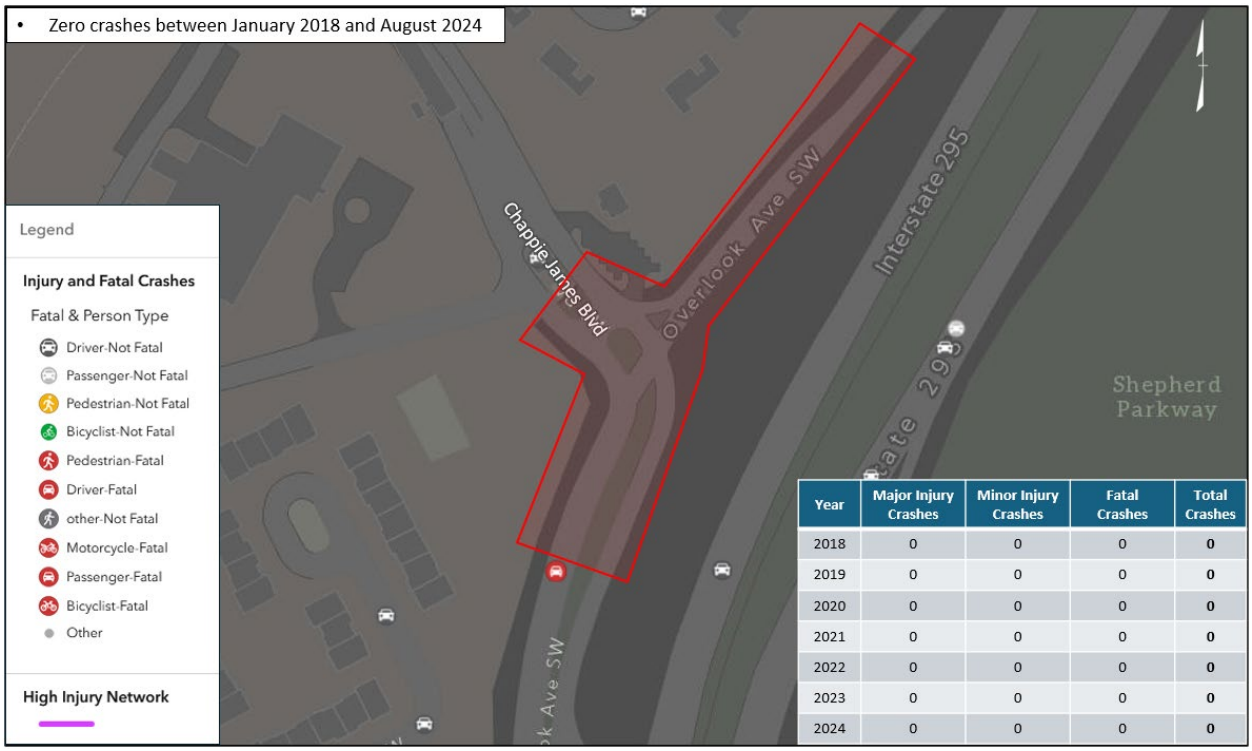
Based on the trends described above, each of the three signalized intersections adjacent to the JBAB gates has had at least one fatal crash occur at or near the intersection. With the exception of these fatalities, the frequency of crashes resulting in injuries is relatively low. None of the crashes involved pedestrians or bicyclists.

Figure 3-15: South Capitol Street Exit Ramps and Malcolm X Avenue/MacDill Boulevard Crash Severity by Year (2018–2024)



Year	Major Injury Crashes	Minor Injury Crashes	Fatal Crashes	Total Crashes
2018	0	2	0	2
2019	0	1	1	2
2020	0	1	0	1
2021	0	3	0	3
2022	0	1	0	1
2023	0	0	0	0
2024	0	0	0	0

Figure 3-16: Overlook Avenue SW and Chappie James Boulevard Crash Severity by Year (2018–2024)



Year	Major Injury Crashes	Minor Injury Crashes	Fatal Crashes	Total Crashes
2018	0	0	0	0
2019	0	0	0	0
2020	0	0	0	0
2021	0	0	0	0
2022	0	0	0	0
2023	0	0	0	0
2024	0	0	0	0

Additionally, DC's Vision Zero program identifies High Injury Network intersections and corridors throughout the city. Under this approach to Vision Zero, DDOT prioritizes proactive safety interventions on the roadways with the most deaths and injuries. To identify those roadways, DDOT conducted an analysis of all corridors in the District based on reported injury and fatality crash data from June 2016 through July 2021. Tier 1 street segments and corridors represent the highest priority segments citywide. There was only one Tier 1 segment and corridor located within the JBAB IDP study area: Firth Sterling Avenue SE between Suitland Parkway and South Capitol Street. No Tier 2 segments or corridors are within the study area.

DDOT implemented recent safety interventions at locations within the study area that included adding leading pedestrian intervals at the signalized intersections of South Capitol Street Exit Ramps and Malcolm X Avenue SE and at Overlook Avenue SW and Chesapeake Street SW.

Potential safety deficiencies at each of the three signalized intersections adjacent to the JBAB gates were identified as part of this existing conditions assessment. These issues would be present regardless of any traffic volume increases attributable to the IDP development; therefore, DDOT is responsible for implementing any potential corrective actions recommended by this study. The following potential safety deficiencies were identified:

- Overlook Avenue SW near Chappie James Boulevard
    - Existing guardrail along the street in both directions is not justified, creating an unnecessary fixed object hazard for drivers.
    - Existing permitted right turn on red for both lanes of vehicles exiting JBAB may cause conflicts with vehicles approaching at high speeds from the left along Overlook Avenue SW, which is also an off-ramp from southbound I-295.
    - Proximity of Chesapeake Avenue SW intersection requires some traffic exiting JBAB to weave across lanes on Overlook Avenue SW, a movement that is exacerbated by the dual lane permitted right turn on red described above.
- South Capitol Street Ramps at Malcolm X Avenue
    - This intersection and the adjacent intersections to the east were modified after the last reported injury and fatal crashes occurred in 2022. No current potential safety deficiencies were identified.
- South Capitol Street at Firth Sterling Avenue
    - This intersection was modified after the last fatal crash occurred in 2019. No current potential safety deficiencies were identified.

3.8.3 Environmental Consequences

Effects on ground traffic and transportation are analyzed by considering the possible changes to existing traffic conditions and the capacity of area roadways from proposed changes in commuter and construction traffic.

Under DDOT's "Significant Impact Policy", an effect is considered significant, and mitigation is required, if a project results in substantial changes to the vehicle delays, queuing, or v/c ratios of an intersection compared to the No Action Alternative. In terms of vehicle delays, if an alternative causes an unfailing intersection approach to fail (LOS E or F), or the alternative causes a 5 percent or more increase to an intersection approach that is failing under the No Action Alternative, then mitigation is required.

3.8.3.1 No Action Alternative

This section lists the planned development and roadway changes and evaluates the pedestrian network, transit, parking, and traffic under the No Action Alternative.

Based on the transportation scoping agreement between DDOT and the study team that details the assumptions used in the Transportation Study (see Appendix F), the No Action Alternative includes five planned developments external to JBAB that are likely to be completed by 2030. One change on the installation is included in the No Action Alternative: the reconfiguration of Firth Sterling Gate, where a new LVIS and Access Control Point will be constructed. The new gate will add more entry lanes for privately owned vehicles and trucks. The new gate will also lengthen the storage to the checkpoint from the Firth Sterling Avenue SE at South Capitol Street intersection. The five external planned developments that are included are all multiple-phased mixed-use projects, located east of Firth Sterling Gate, south of the Anacostia River, and east of South Capitol Street. The Douglass and the Frederick are located west of I-295, whereas the Ana Townhomes, the Asberry and the Edmonson, and Martin's View are all east of I-295. The Transportation Study (Appendix F, Section 4.1.1.1) contains a comprehensive list and description of these planned developments.

Under the No Action Alternative, no planned roadway improvements were identified that would be constructed by 2030 (the anticipated Proposed Action completion year). However, several recently completed roadway improvements are included, which are described in Section 4.1.1.2 of the Transportation Study (Appendix F).

Pedestrian Network

Under the No Action Alternative, the five external planned development projects may include replacing existing sidewalks damaged during construction or improving sidewalks to adhere to ADA requirements or DDOT streetscape guidelines. A funded trail improvement starting at Firth Sterling Gate and running south along South Capitol Street to Overlook Avenue SW will connect pedestrians to all three gates. A future planned trail will improve the section of Firth Sterling Avenue SE between the Anacostia Metro Station and Firth Sterling Gate. Additionally, DDOT plans to build a bridge that carries a shared-use path across Suitland Parkway to connect Barry Farm to the Anacostia Metro Station.

Under the No Action Alternative, pedestrian improvements adjacent to South Gate are expected based on the mitigation described in the *Final Transportation Study For Real Estate Outgrant for a Charter School at Joint Base Anacostia-Bolling, Washington, D.C.*, including narrowing the apron of the I-295 on-ramp on Chesapeake Street, upgrading the sidewalk on Overlook Avenue SW from Chesapeake Street to South Gate, and implementing modern ADA-compliant ramps and high-visibility crosswalks on the western leg of the intersection of Chesapeake Street and Overlook Avenue SW. These improvements are due to be completed with the permanent school facility prior to 2030.

Under the No Action Alternative, these planned developments and other area pedestrian growth through 2030 are expected to change the volume of pedestrian activity and existing pedestrian infrastructure near the gates.

Bicycle Network

Under the No Action Alternative, DDOT plans to construct several new bicycle facilities throughout the city, including new bicycle lanes and multiuse trails. According to moveDC, the mode share of bicycle commutes increased from 2.2 percent in 2010 to 4.5 percent in 2018, and DDOT is actively seeking to increase this number in the coming years. Planned improvements are underway to accommodate this increase in bicycle mode share (DDOT, 2021a). Appendix F, Section 4.1.3, contains the planned bicycle facilities included in the District's Bicycle Priority Network within a 1-mile radius of the three gates as presented in the moveDC 2021 update.

In addition to bicycle facilities within a 1-mile radius of the project area, the 2015 DC Capital Bikeshare Development Plan recommends reviving commercial corridors in Anacostia despite access restrictions that limit Capital Bikeshare's ability to serve major employment sites like JBAB (DDOT, 2015). The 2020 Update to the Capital Bikeshare Development Plan highlights Anacostia and Congress Heights as areas with a high "public needs propensity" for bikeshare based on established District and Capital Bikeshare goals, making them key areas for bikeshare station growth within the study area (DDOT, 2020).

The No Action Alternative includes development within the bicycle study area; therefore, an increase in bicycles is anticipated. With the increase of Capital Bikeshare station docks and stations in the bicycle study area and the possibility for additional bicycle infrastructure improvements as planned by DDOT, the bicycle network in the bicycle study area under the No Action Alternative is expected to improve. Annual background growth in bicyclists through 2030 is expected, especially with the introduction of Capital Bikeshare stations throughout Congress Heights and Bellevue.

Public Transit

WMATA initiatives, including the Metrobus Priority Corridor Network Service Evaluation studies and the Momentum plan for the Metro system 2013–2025, are expected to result in ongoing changes to local bus operations. Additionally, the Momentum plan recommends offering more eight-car trains during peak periods, which would increase the system's ability to move more passengers. These types of changes would directly affect Metrobus and Metrorail routes that currently serve the transit study area (WMATA, 2013). Another initiative, the Bus Priority Program was established to improve bus speeds and reliability (DDOT, 2021b). In 2022, WMATA launched the Better Bus Network Redesign project, the first comprehensive redesign of Metrobus service in its 50-year history. Through two years of research, planning, and outreach, WMATA developed the 2025 Better Bus Network. Metro will begin implementing the network in summer 2025 (WMATA, 2024). The new bus route that will serve JBAB in 2025 is the C21 route. This new route is called the Alabama Avenue—Benning Road route; however, its western terminus will be the Anacostia Metro Station. Near JBAB, this route will travel along South Capitol Street and Firth Sterling Avenue between Malcolm X Avenue and the Metro station.

Under the No Action Alternative, the five external planned developments and annual background growth are expected to moderately increase transit trips from the study area. For Metrorail service, the Green Line operates between 5:00 a.m. and midnight on weekdays. Green Line train headways are 8 minutes across all service times (WMATA, 2023b). Mixed-use developments will increase Metrorail ridership to and from the Anacostia Metro Station during morning peak periods, with the reverse effect during afternoon peak periods.

The five external planned developments and annual background growth, coupled with bus route improvements, are expected to increase Metrobus ridership by 2030. The proposed Metrobus and Metrorail improvements and recommendations are anticipated to have a moderate benefit on ridership by providing enhanced service to disperse the increased demand.

Additionally, no changes to regional commuter bus service or DoD-operated bus shuttles are anticipated beyond routine route and schedule adjustments under the No Action Alternative.

Truck Access

With five external developments proposed near the locations of the two action alternatives, construction-related truck trips and regularly scheduled deliveries could increase truck traffic in the short and long term. The relocation of the installation's LVIS from South Gate to Firth Sterling Gate will also be implemented under the No Action Alternative. Minimal effects on truck access in the study area are expected. No other changes to truck circulation or loading are expected.

Parking

Under the No Action Alternative, the planned external developments will provide new parking spaces to serve their residential units and commercial spaces.

Traffic (Vehicular)

The No Action Alternative includes trips generated by approved planned developments (including the five developments external to the JBAB installation), growth in vehicle trips generated from outside the study area, and planned roadway developments (described in Appendix F, Section 4.1.1). Traffic volumes were used as an input, along with delay, signal timing, and geometrics to evaluate traffic operations and queuing at signalized and unsignalized intersections to determine the effects of traffic growth.

No Action Alternative Intersection Operations Analysis

Based on the Synchro signalized intersection analysis results, several signalized intersections and intersection approaches in the traffic study area would operate at satisfactory conditions (LOS D or better is considered a satisfactory operating level) under the No Action Alternative during the AM and PM peak hour periods. However, based on Synchro analysis results, the following signalized intersections or intersection approaches in the study area would operate under unsatisfactory conditions (LOS E or worse) during peak hours under the No Action Alternative:

- Suitland Parkway SE and I-295 SB Off-ramp (Intersection #1)
    - Off-ramp from southbound I-295 to southeast-bound Suitland Parkway SE during the AM and PM peak hour (shown as the NB approach in the summary tables)
- Suitland Parkway SE and I-295 NB Off-ramp/I-295 NB On-ramp (Intersection #2)
    - Off-ramp from northbound I-295 to Suitland Parkway SE during the AM peak hour (shown as Eastbound (EB) approach in the summary tables)
    - Northwest-bound Suitland Parkway SE during the AM and PM peak hour
- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3)
    - Northbound Suitland Parkway SE during the AM and PM peak hour
    - Southbound Suitland Parkway SE during the AM and PM peak
    - Eastbound Firth Sterling Avenue SE during the AM and PM peak hour
    - Westbound Firth Sterling Avenue SE during the AM peak hour
- I-295 NB On-ramps/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11)
    - Northbound I-295 NB Off-ramp during the AM peak hour
- Overlook Avenue SW and Chappie James Boulevard SW (Intersection #14)
    - Southeast-bound Chappie James during the PM peak hour
    - Southwest-bound Overlook Avenue SW during the PM peak hour
- Overlook Avenue SW and Chesapeake Street SW (Intersection #15)
    - Northbound Overlook Avenue SW during the AM peak hour
    - Southbound Overlook Avenue SW during the PM peak hour
- Overlook Avenue SW and NRL Main Gate/Laboratory Road SW (Intersection #16)
    - Westbound Laboratory Road SW during the AM peak hour
    - Southbound Overlook Avenue SW during the AM peak hour

Table 3-27 contains the overall intersection LOS grades for the AM and PM peak hours under the No Action Alternative with failing LOSs highlighted in yellow. The overall intersection LOS grades are

depicted in Figure 3-17, Figure 3-18, and Figure 3-19 for the AM and PM peak hours under the No Action Alternative. Appendix F, Section 4.3.1, contains the detailed results and tables of the LOS capacity analysis and the intersection vehicle delay for the No Action Alternative during the AM and PM peak hours.

No Action Alternative Intersection Queuing Analysis

Appendix F, Section 4.3.2.2 contains the detailed results and tables of the intersection queuing analysis, comparing the No Action Alternative with the two action alternatives during AM and PM peak hours. A discussion of the intersection queue analysis comparison between the No Action Alternative and the two action alternatives is provided in Section 3.2.3.2 and Section 3.2.3.3, below.

Table 3-27: 2030 No Action Alternative Conditions during AM and PM Peak Hour Operations

No.	Intersection	2030 No Action Alternative Condition: AM Delay (seconds/ vehicle)	2030 No Action Alternative Condition: AM LOS	2030 No Action Alternative Condition: AM Check	2030 No Action Alternative Condition: PM Delay (seconds/ vehicle)	2030 No Action Alternative Condition: PM LOS	2030 No Action Alternative Condition: PM Check
1	I-295 SB Ramps & Suitland Pkwy SE	18.7	B	Pass	20.6	C	Pass
2	Suitland Pkwy SE & I-295 NB Off-Ramp/ I-295 NB On-Ramp	153.7	F	Fail	68.0	E	Fail
3	Firth Sterling Ave SE & Suitland Pkwy SE	131.2	F	Fail	223.1	F	Fail
4	Sumner Rd SE/Barry Rd SE & Firth Sterling Ave SE	10.9	B	Pass	7.8	A	Pass
5	Eaton Rd SE & Firth Sterling Ave SE	7.1	A	Pass	4.6	A	Pass
6	St. Elizabeth Rd SE & Stevens Rd SE & Firth Sterling Ave SE	17.1	B	Pass	19.5	B	Pass

No.	Intersection	2030 No Action Alternative Condition: AM Delay (seconds/ vehicle)	2030 No Action Alternative Condition: AM LOS	2030 No Action Alternative Condition: AM Check	2030 No Action Alternative Condition: PM Delay (seconds/ vehicle)	2030 No Action Alternative Condition: PM LOS	2030 No Action Alternative Condition: PM Check
7	South Capitol St & Defense Blvd/Firth Sterling Ave SE	32.9	C	Pass	30.2	C	Pass
8	S Capitol St SB Ramps MacDill Blvd SW/ Malcolm X Ave	16.8	B	Pass	29.0	C	Pass
9	S Capitol St NB Ramps & Malcolm X Ave SE	21.3	C	Pass	11.1	B	Pass
11	I-295 NB Ramp/ Dorothea Dix Ave SE & Malcolm X Ave SE	34.4	C	Pass	12.9	B	Pass
12	I-295 SB Ramps & Crossover	8.2	A	Pass	13.2	B	Pass
13	Dorothea Dix Ave SE & Crossover & I-295 NB Ramp	7.7	A	Pass	4.5	A	Pass
14	Overlook Ave SW & Chappie James Blvd	39.3	D	Pass	287.5	F	Fail
15	Overlook Ave SW & Chesapeake St SW	50.8	D	Pass	73.7	E	Fail
16	Overlook Ave SW & NRL Main Gate/ Laboratory Rd SW	193.7	F	Fail	26.4	C	Pass

Key: LOS = Level of Service; Pass = LOS D or better; Fail = LOS E or LOS F
Notes: Synchro signalized intersection analysis; HCM criteria. Delay is measured in seconds per vehicle.
Intersection #10 is not included in this table because it is unsignalized.

Figure 3-17: No Action Alternative—AM and PM Peak Hour LOS—Firth Sterling Gate

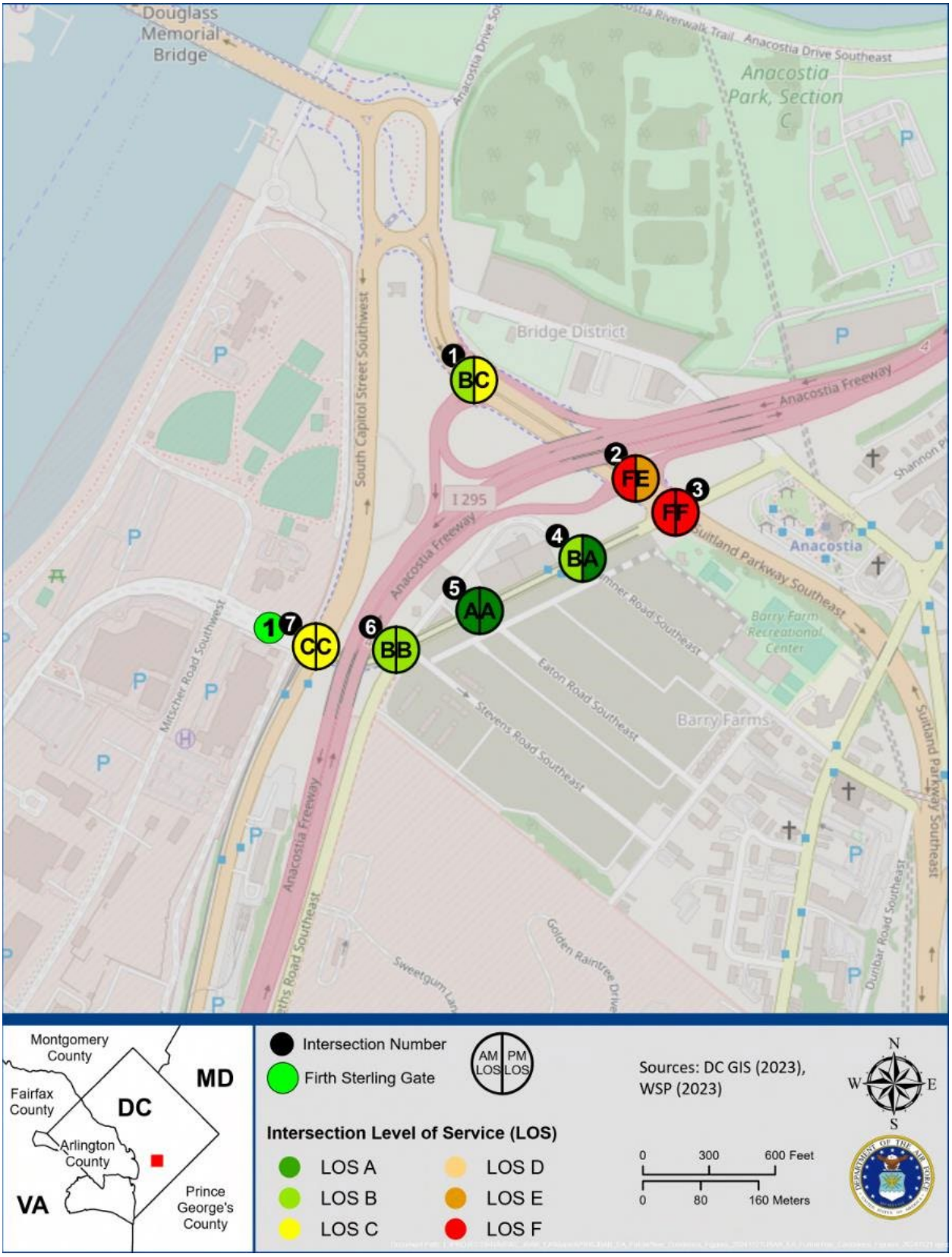


Figure 3-18: No Action Alternative—AM and PM Peak Hour LOS—Arnold Gate

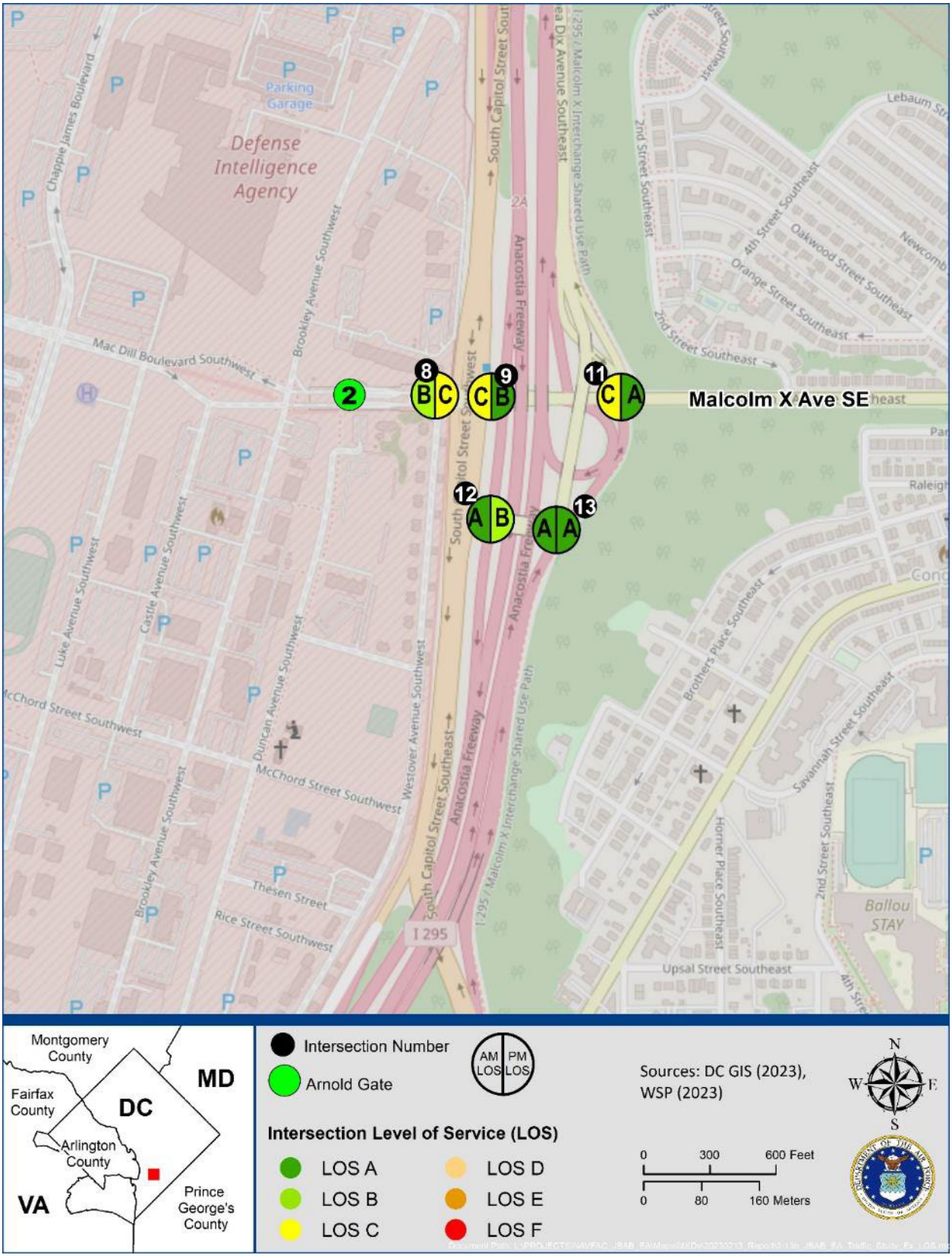
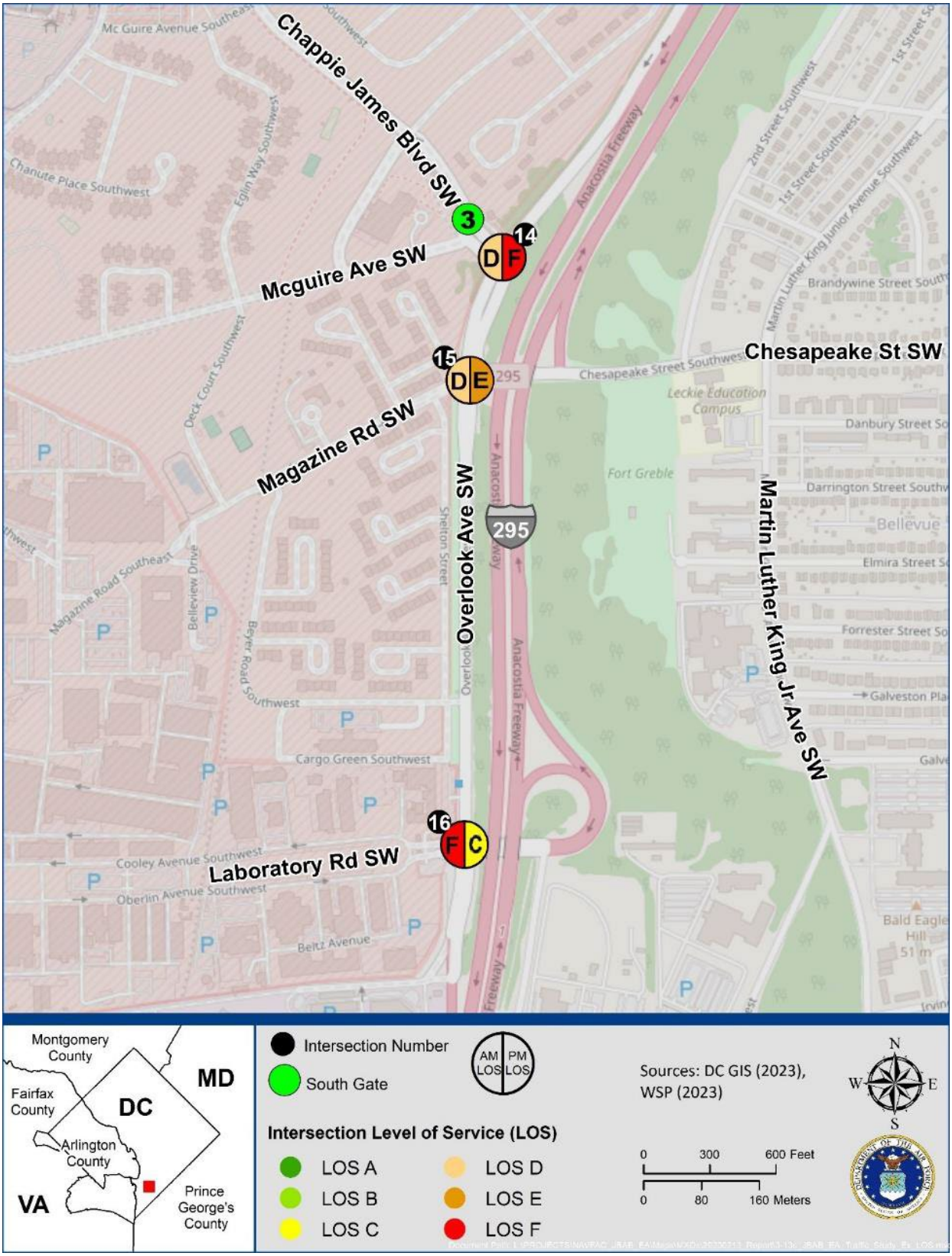


Figure 3-19: No Action Alternative—AM and PM Peak Hour LOS—South Gate



No Action Alternative Summary

Under the No Action Alternative, the Proposed Action would not be built, and changes to transportation would result from other factors. Effects on the pedestrian network would be long term and beneficial from the five external planned developments and DDOT pedestrian improvement projects, although short-term, adverse effects may occur during pedestrian facility construction. Effects on the bicycle network would also be long term and beneficial from planned facilities, such as the DDOT plans to construct new bicycle facilities throughout the city. There may be short-term, adverse effects during bicycle facility construction. Under the No Action Alternative, the planned external developments will provide new parking spaces to serve their residential units and commercial spaces.

The five external developments and annual background growth are expected to moderately increase transit trips from the study area. Proposed Metrobus and Metrorail improvements and recommendations—such as the Momentum plan, Bus Priority Program, and 2025 Better Bus Network—are anticipated to have a moderate benefit on ridership by providing enhanced service to disperse the increased demand. The relocation of the installation's LVIS from South Gate to Firth Sterling Gate will also be implemented under the No Action Alternative, although minimal effects on truck access in the study area are expected. For traffic, effects would be long term and adverse from the forecasted, substantial increase in vehicle volume generated from the five planned developments external to the JBAB installation and the regional growth of trips. Reconstruction of Firth Sterling Gate will add entry lanes that could reduce queuing-related traffic effects by reducing the likelihood of queues spilling back through adjacent intersections compared to existing conditions.

3.8.3.2 Alternative 1: Implement IDP Five-Year Projects

This section evaluates the pedestrian network, bicycle network, transit, parking, and traffic under Alternative 1, which implements the 10 projects of the Proposed Action.

Pedestrian Network

Under Alternative 1, beyond providing connections to the future multiuse trail that would serve all three gates and the trail completed as part of the new Frederick Douglass Memorial Bridge project, pedestrian improvements are not proposed.

Bicycle Network

Under Alternative 1, beyond providing connections to the planned multiuse trail south of Firth Sterling Gate and the trail completed as part of the new Frederick Douglass Memorial Bridge project, no bicycles lanes or paths are proposed.

Public Transit

Under Alternative 1, transit ridership is not expected to increase significantly; however, bus routes, scheduling, and stop locations are expected to be updated as conditions require (e.g., WMATA's Better Bus Program), and as operators periodically adjust bus routes.

Truck Access

Under Alternative 1, truck traffic would increase slightly from the regularly scheduled deliveries to the installation. Minimal effects on truck access in the study area are expected. During construction, there would be a short-term increase in the number of trucks traveling on South Capitol Street and Defense Boulevard SW to deliver construction equipment, materials, and refuse to and from construction sites located on the installation. Recommendations for minimizing the short-term effects of increased truck traffic during construction are presented in Appendix F, Section 8.

Parking

No changes to publicly available parking are expected in the study area under Alternative 1, and there would be no measurable, long-term effects on parking in the study area. Alternative 1 would require temporary parking areas on the installation for construction workers and trucks. To minimize short-term effects, the installation would limit parking for construction workers to within the construction sites and laydown areas. Laydown areas would be located near or at construction sites. These areas may be temporary or may be used during the entire duration of construction, depending on construction needs. None of these temporary parking areas would be located off the installation. Recommendations for minimizing the short-term effects on parking during construction are presented in Appendix F, Section 8.

Traffic (Vehicular)

Short-term, adverse effects on traffic may occur from an increase in truck traffic on South Capitol Street and Defense Boulevard SW to and from construction sites located on the installation. Contractors are expected to follow a construction management plan to reduce effects from trucking activity on the roadway network during peak hours. Recommendations for minimizing the short-term effects on traffic during construction are presented in Appendix F, Section 8.

The vehicle trip generation and distribution assumptions described in Section 4.2.2 of the Transportation Study (Appendix F) are the foundation for determining the effects of Alternative 1. Appendix F, Section 4.3.2 analyzes intersection operations and queuing results under Alternative 1 and compares them to the No Action Alternative.

Alternative 1 Intersection Operations Analysis

Based on the Synchro signalized intersection analysis results, several signalized intersections and intersection approaches in the traffic study area would operate at satisfactory conditions (LOS D or better is considered a satisfactory operating level) under Alternative 1 during the AM and PM peak hour periods. However, based on Synchro analysis results, the following signalized intersections and intersection approaches in the study area would operate under unsatisfactory conditions (LOS E or worse) during peak hours under Alternative 1:

- Suitland Parkway SE and I-295 SB Off-ramp (Intersection #1)
    - Off-ramp from southbound I-295 to southeast-bound Suitland Parkway SE during the AM and PM peak hour (shown as the NB approach in the summary tables)
- Suitland Parkway SE and I-295 NB Off-ramp/I-295 NB On-ramp (Intersection #2)
    - Off-ramp from northbound I-295 to Suitland Parkway SE during the AM peak hour (shown as EB approach in the summary tables)
    - Northwest-bound Suitland Parkway SE during the AM and PM peak hour
- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3)
    - Northbound Suitland Parkway SE during the AM and PM peak hour
    - Southbound Suitland Parkway SE during the AM and PM peak hour
    - Eastbound Firth Sterling Avenue SE during the AM and PM peak hour
    - Westbound Firth Sterling Avenue SE during the AM peak hour
- I-295 NB On-ramp/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11)
    - Northbound I-295 NB Off-ramp during the AM peak hour
- Overlook Avenue SW and NRL Main Gate/Laboratory Road SW (Intersection #16)
    - Southbound Overlook Avenue SW during the AM peak hour

Table 3-28 and Table 3-29 contain the overall intersection LOS grades for the AM and PM peak hours under Alternative 1, compared to the No Action Alternative. The tables show the study intersections that are unsatisfactory under the No Action Alternative (LOS E or F, highlighted in yellow) would experience no change in LOS under Alternative 1.

The overall intersection LOS grades are depicted in Figure 3-20, Figure 3-21, and Figure 3-22 for the AM and PM peak hours under Alternative 1. Appendix F, Section 4.3.2.1, contains the detailed results of the LOS capacity analysis and the intersection vehicle delay comparing the No Action Alternative with Alternative 1 during the AM and PM peak hours.

The net difference in average vehicle delay for most of these unsatisfactory intersections is minimal, with delay times either minimally changing or improving. However, the average vehicle delay of Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3), which operates at LOS F under the No Action Alternative during the PM peak hour, would increase by 15 seconds during the PM peak hour under Alternative 1. For I-295 NB On-ramps/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11), the overall intersection LOS would degrade from LOS C under the No Action Alternative to LOS F under Alternative 1 during the AM peak hour. For S Capitol Street SB Ramps and MacDill Boulevard/Malcolm X Avenue SE (Intersection #8), the overall intersection LOS would degrade from LOS C under the No Action Alternative to LOS E under Alternative 1 during the PM peak hour.

Alternative 1 Intersection Queuing Analysis

Based on the Synchro queue results of all study intersections, six signalized intersections have lane groups that would experience queuing lengths exceeding the available storage capacity. The following lane groups, with a comparison to the queues for the No Action Alternative, would exceed the available storage under Alternative 1:

- Suitland Parkway SE and I-295 NB Off-ramp/I-295 NB On-ramp (Intersection #2)
    - Southeast-bound Suitland Parkway SE during the PM peak hour
    - Northwest-bound Suitland Parkway SE (through and right turn movement) during the AM and PM peak hour
- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3)
    - Southbound Suitland Parkway SE during the AM and PM peak hour
    - Northbound Suitland Parkway SE (through movement) during the AM peak hour
    - Eastbound Fifth Sterling Avenue SE during the AM and PM peak hour
    - Westbound Fifth Sterling Avenue SE to Suitland Parkway during the AM and PM peak hour
- S Capitol Street SB Ramps and MacDill Boulevard (Intersection #8)
    - Eastbound MacDill Boulevard (right turn movement) during the PM peak hour
    - Southbound S Capitol Street during the AM peak hour
- Malcolm X Avenue SE and S Capitol Street NB ramps (Intersection #9)
    - Northbound S Capitol Street (left turn movement) during the AM peak hour
- Overlook Avenue SW and Chesapeake Street SW (Intersection #15)
    - Southbound Overlook Avenue SW (through movement) during the PM peak hour

All other intersection lane groups would experience queues that are adequately stored. Queuing results comparing Alternative 1 to the No Action Alternative are depicted in Appendix F, Section 4.3.3.2.

Based on the number of inspection lanes at each of the three JBAB gates, the projected highest hourly volume entering each gate, and the average inspection time per vehicle (measured at the existing gates),

the queues entering each gate are not expected to spill back into the adjacent signalized intersection at any time.

Table 3-28: Alternative 1 Intersection Operations (AM Peak Hour)

No.	Intersection	2030 No Action Alternative Condition: AM Delay (seconds/vehicle)	2030 No Action Alternative Condition: AM LOS	2030 No Action Alternative Condition: AM Check	2030 Alternative 1 Condition: AM Delay (seconds/vehicle)	2030 Alternative 1 Condition: AM LOS	2030 Alternative 1 Condition: AM Check	Net Difference of Average Delay (seconds/vehicle)	Net Change in LOS
1	I-295 SB Ramps & Suitland Pkwy SE	18.7	B	Pass	19.9	B	Pass	+1.2	No Change
2	Suitland Pkwy SE & I-295 NB Off-Ramp/I-295 NB On-Ramp	153.7	F	Fail	152.9	F	Fail	-0.8	No Change
3	Firth Sterling Ave SE & Suitland Pkwy SE	131.2	F	Fail	130.7	F	Fail	-0.5	No Change
4	Sumner Rd SE/Barry Rd SE & Firth Sterling Ave SE	10.9	B	Pass	10.5	B	Pass	-0.4	No Change
5	Eaton Rd SE & Firth Sterling Ave SE	7.1	A	Pass	6.8	A	Pass	-0.3	No Change
6	St. Elizabeth Rd SE & Stevens Rd SE & Firth Sterling Ave SE	17.1	B	Pass	16.0	B	Pass	-1.1	No Change
7	South Capitol St & Defense Blvd/Firth Sterling Ave SE	32.9	C	Pass	37.3	D	Pass	+4.4	Worse LOS

No.	Intersection	2030 No Action Alternative Condition: AM Delay (seconds/vehicle)	2030 No Action Alternative Condition: AM LOS	2030 No Action Alternative Condition: AM Check	2030 Alternative 1 Condition: AM Delay (seconds/vehicle)	2030 Alternative 1 Condition: AM LOS	2030 Alternative 1 Condition: AM Check	Net Difference of Average Delay (seconds/vehicle)	Net Change in LOS
8	S Capitol St SB Ramps & MacDill Blvd SW/ Malcolm X Ave	16.8	B	Pass	29.7	C	Pass	+12.9	Worse LOS
9	S Capitol St NB Ramps & Malcolm X Ave SE	21.3	C	Pass	27.7	C	Pass	+6.4	No Change
11	I-295 NB Ramp/ Dorothea Dix Ave SE & Malcolm X Ave SE	34.4	C	Pass	122.6	F	Fail	+88.2	Worse LOS
12	I-295 SB Ramps & Crossover	8.2	A	Pass	8.2	A	Pass	No Change	No Change
13	Dorothea Dix Ave SE & Crossover & I-295 NB Ramp	7.7	A	Pass	8.2	A	Pass	+0.5	No Change
14	Overlook Ave SW & Chappie James Blvd	39.3	D	Pass	11.4	B	Pass	-27.9	Better LOS
15	Overlook Ave SW & Chesapeake St SW	50.8	D	Pass	19.1	B	Pass	-31.7	Better LOS
16	Overlook Ave SW & NRL Main Gate/ Laboratory Rd SW	193.7	F	Fail	63.5	E	Fail	-130.2	Better LOS

Key: LOS = Level of Service; Pass = LOS D or better; Fail = LOS E or LOS F
Notes: Synchro signalized intersection analysis; HCM criteria. Delay is measured in seconds per vehicle. Intersection #10 is not included in this table because it is unsignalized.

Table 3-29: Alternative 1 Intersection Operations (PM Peak Hour)

No.	Intersection	2030 No Action Alternative Condition: PM Delay (seconds/vehicle)	2030 No Action Alternative Condition: PM LOS	2030 No Action Alternative Condition: PM Check	2030 Alternative 1 Condition: PM Delay (seconds/ vehicle)	2030 Alternative 1 Condition: PM LOS	2030 Alternative 1 Condition: PM Check	Net Difference of Average Delay (seconds/vehicle)	Net Change in LOS
1	I-295 SB Ramps & Suitland Pkwy SE	20.6	C	Pass	20.7	C	Pass	+0.1	No Change
2	Suitland Pkwy SE & I-295 NB Off-Ramp/I-295 NB On-Ramp	68.0	E	Fail	71.8	E	Fail	+3.8	No Change
3	Firth Sterling Ave SE & Suitland Pkwy SE	223.1	F	Fail	238.1	F	Fail	+15.0	No Change
4	Sumner Rd SE/Barry Rd SE & Firth Sterling Ave SE	7.8	A	Pass	7.3	A	Pass	-0.5	No Change
5	Eaton Rd SE & Firth Sterling Ave SE	4.6	A	Pass	4.3	A	Pass	-0.3	No Change
6	St. Elizabeth Rd SE & Stevens Rd SE & Firth Sterling Ave SE	19.5	B	Pass	17.9	B	Pass	-1.6	No Change
7	South Capitol St & Defense Blvd/ Firth Sterling Ave SE	30.2	C	Pass	35.4	D	Pass	+5.2	Worse LOS

No.	Intersection	2030 No Action Alternative Condition: PM Delay (seconds/vehicle)	2030 No Action Alternative Condition: PM LOS	2030 No Action Alternative Condition: PM Check	2030 Alternative 1 Condition: PM Delay (seconds/ vehicle)	2030 Alternative 1 Condition: PM LOS	2030 Alternative 1 Condition: PM Check	Net Difference of Average Delay (seconds/vehicle)	Net Change in LOS
8	S Capitol St SB Ramps & MacDill Blvd SW/ Malcolm X Ave	29.2	C	Pass	75.2	E	Fail	+46.0	Worse LOS
9	S Capitol St NB Ramps & Malcolm X Ave SE	11.1	B	Pass	9.6	A	Pass	-1.5	No Change
11	I-295 NB Ramp/ Dorothea Dix Ave SE & Malcolm X Ave SE	12.9	B	Pass	11.5	B	Pass	-1.4	No Change
12	I-295 SB Ramps & Crossover	13.2	B	Pass	13.2	B	Pass	No Change	No Change
13	Dorothea Dix Ave SE & Crossover & I-295 NB Ramp	4.5	A	Pass	4.5	A	Pass	No Change	No Change
14	Overlook Ave SW & Chappie James Blvd	287.5	F	Fail	13.7	B	Pass	-273.8	Better LOS
15	Overlook Ave SW & Chesapeake St SW	73.7	E	Fail	17.4	B	Pass	-56.3	Better LOS
16	Overlook Ave SW & NRL Main Gate/ Laboratory Rd SW	26.4	C	Pass	22.3	C	Pass	-4.1	No Change

Key: LOS = Level of Service; Pass = LOS D or better; Fail = LOS E or LOS F
Notes: Synchro signalized intersection analysis; HCM criteria. Delay is measured in seconds per vehicle. Intersection #10 is not included in this table because it is unsignalized.

Figure 3-20: Alternative 1—AM and PM Peak Hour LOS—Firth Sterling Gate

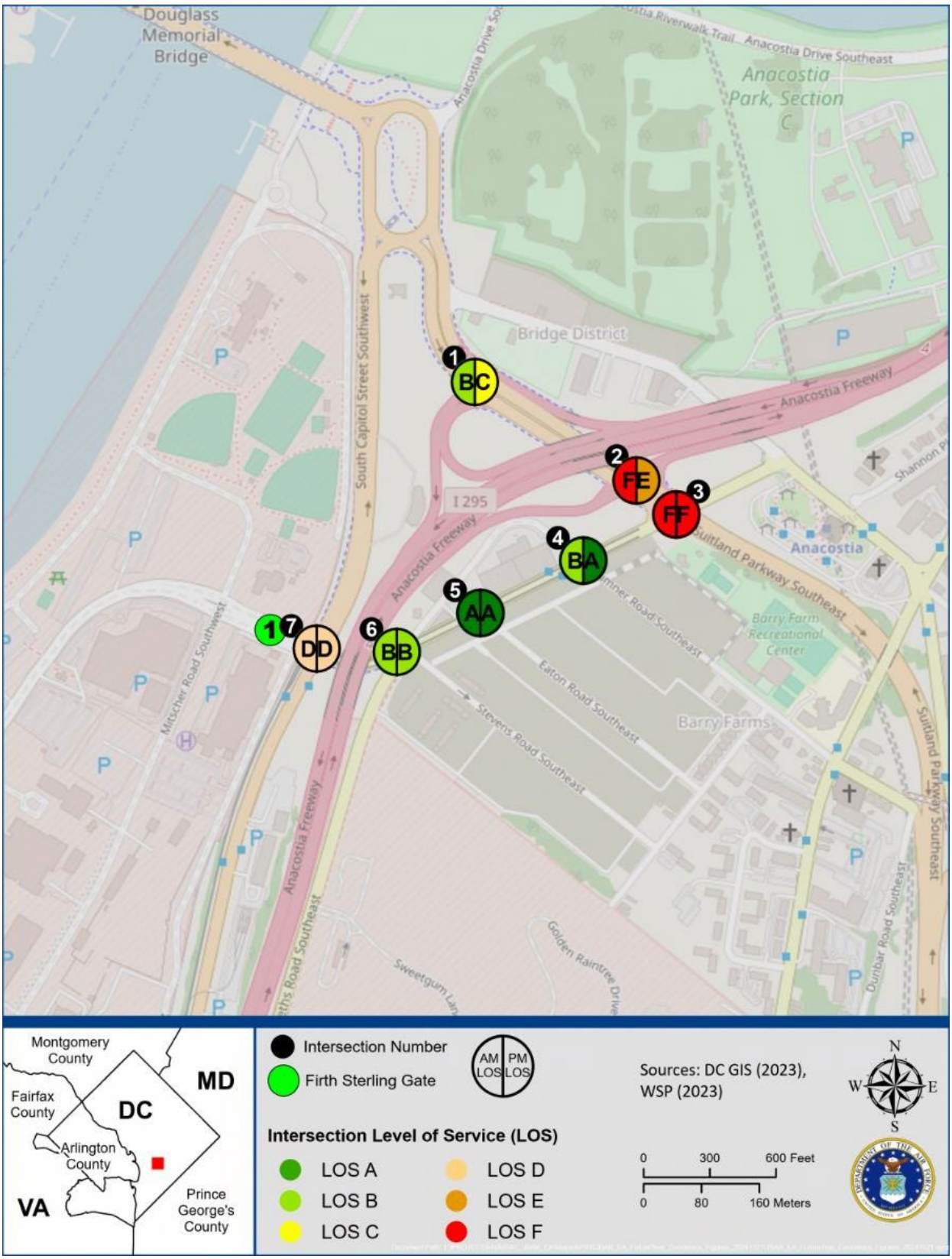


Figure 3-21: Alternative 1—AM and PM Peak Hour LOS—Arnold Gate

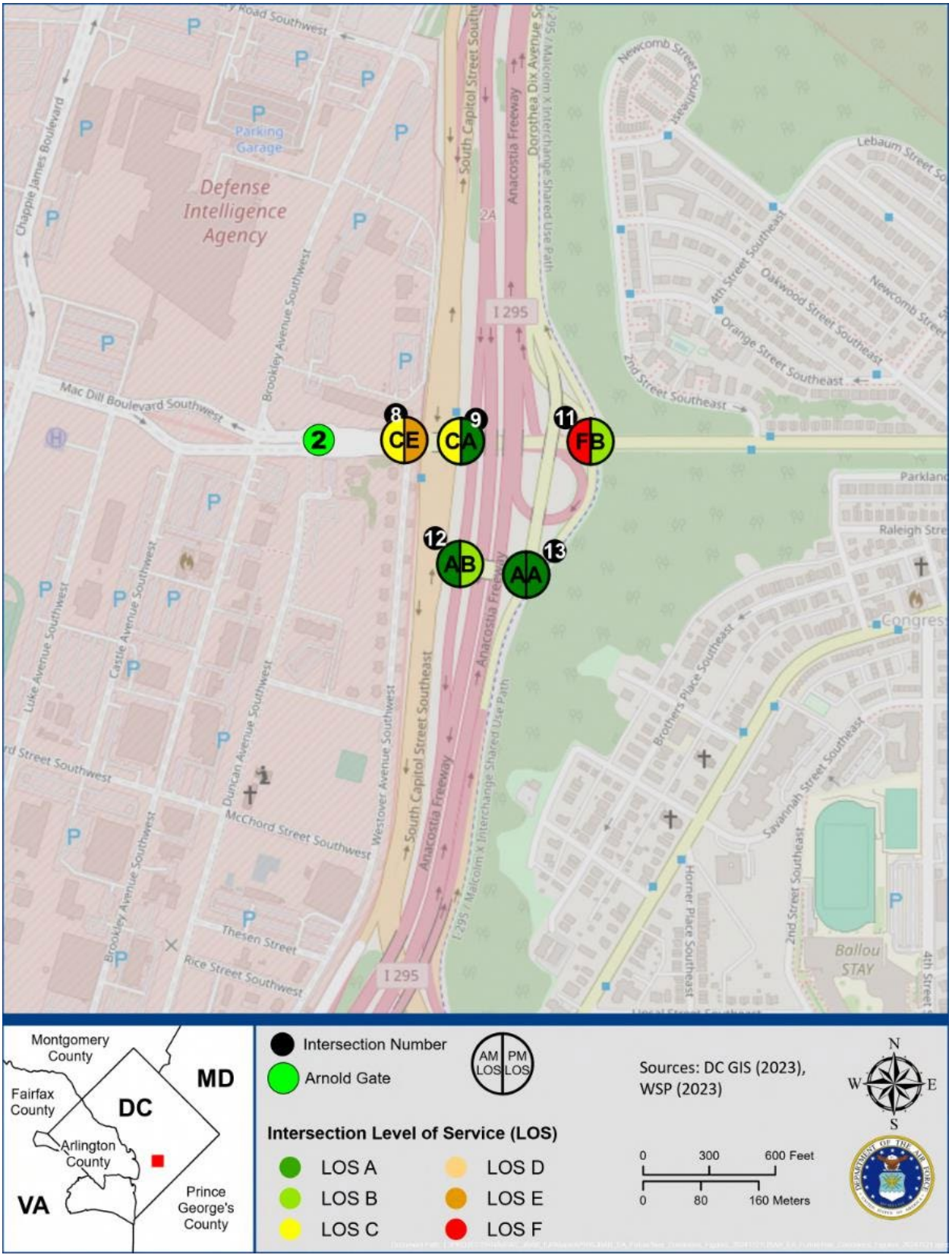
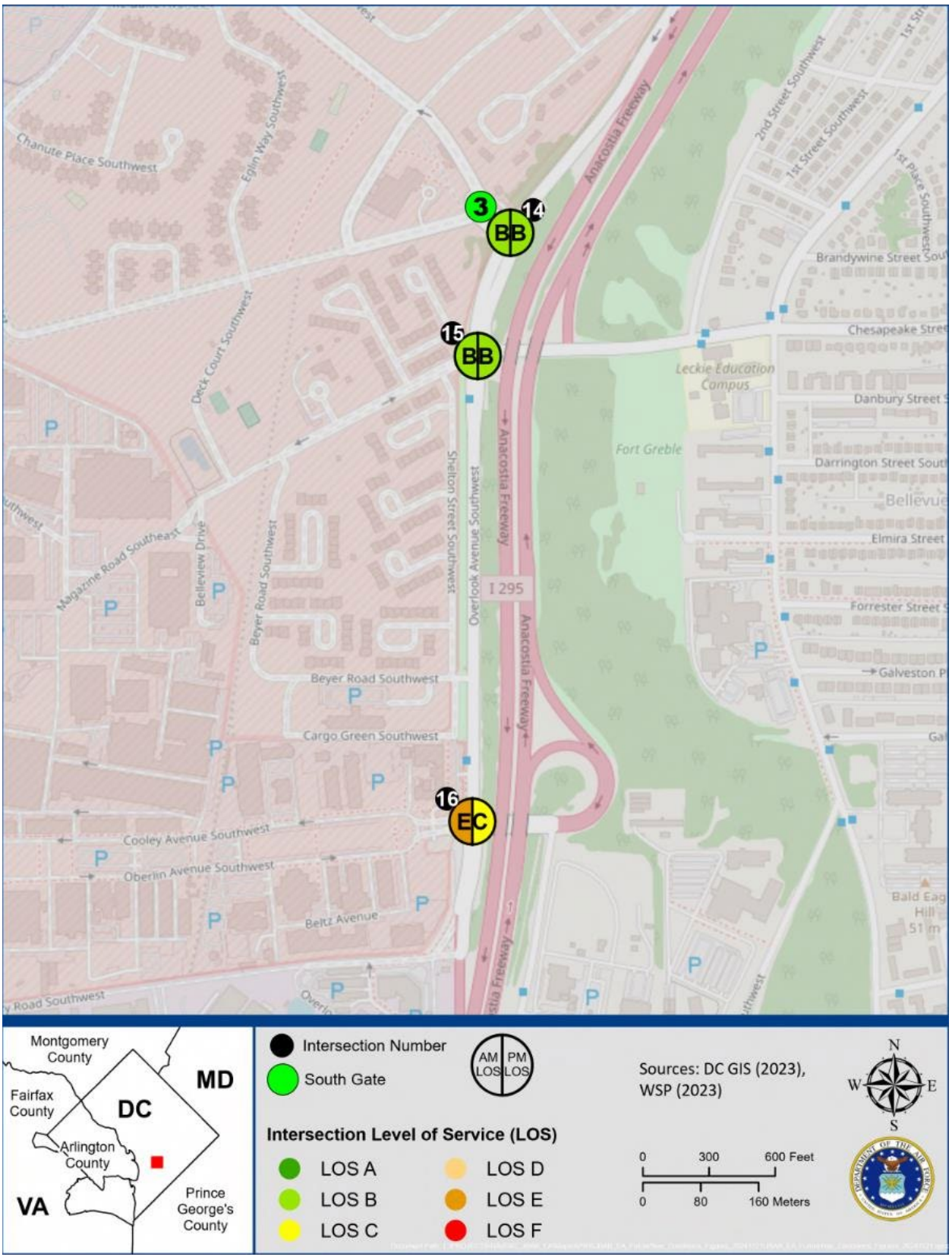


Figure 3-22: Alternative 1—AM and PM Peak Hour LOS—South Gate



Alternative 1 Summary

Under Alternative 1, effects on the pedestrian network, bicycle network, and transit would be minimal and long term. Short-term, adverse effects to truck access and traffic may occur during construction activity within the installation from a temporary increase in truck trips moving on and off the construction sites. Traffic would experience long-term, adverse effects under Alternative 1. Based on the Synchro analysis performed for this study, the additional volume of vehicles would cause overall intersection delays at Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3) to increase by more than 5 percent during the PM peak hour, whereas the overall intersection LOS at S Capitol Street Southbound Ramps and MacDill Boulevard (Intersection #8) would degrade from LOS C to LOS E during the PM peak hour, and intersection LOS at I-295 Northbound On-ramps/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11) would degrade from LOS C to LOS F during the AM peak hour. Under Alternative 1, several queues would increase slightly, while others would decrease slightly, but the overall effect would be comparable to the No Action Alternative.

Therefore, based on DDOT's "Significant Impact Policy" in the DDOT CTR guidelines, the following intersections would require mitigation under Alternative 1:

- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3) during the PM peak hour because the overall intersection delay would increase by more than 5 percent from the No Action Alternative in the PM peak hour
- S Capitol Street SB Ramps and MacDill Boulevard/Malcolm X Avenue SE (Intersection #8) during the PM peak hour because the overall intersection would worsen from LOS C under the No Action Alternative to LOS E under Alternative 1 during the PM peak hour
- I-295 NB On-ramps/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11) during the AM peak hour because the overall intersection would worsen from LOS C under the No Action Alternative to LOS F under Alternative 1 during the AM peak hour

Required measures to improve Alternative 1 relative to the No Action Alternative were developed for each intersection that would require mitigation; these measures are elaborated in Appendix F, Section 4.3.4. The proposed mitigation option implemented to improve traffic options at the aforementioned intersections would involve optimizing the signal timing splits. However, for Intersection #8 during the PM peak hour, the mitigation would involve adjusting the signal timing from 100 seconds to 110 seconds and optimizing the signal timing splits. Although the signalized intersections along Malcolm X Avenue SE near MacDill Gate are pretimed, these signals are coordinated and require the signals on Malcolm X Avenue SE at S Capitol Street NB ramps and at I-295 NB On-ramps/Dorothea Dix Avenue SE to increase their timings from 100 seconds to 110 seconds. Appendix F, Section 4.3.4, presents detailed results of the intersection operations analysis that demonstrate the effectiveness of the mitigation to minimize the long-term, adverse effects on traffic.

Therefore, if Alternative 1 were selected, mitigation would be required to offset anticipated traffic effects.

3.8.3.3 Alternative 2: Alternative Siting for IDP Five-Year Projects

This section evaluates the pedestrian network, bicycle network, transit, parking, and traffic under Alternative 2, which explores alternative siting for the 10 projects of the Proposed Action.

Pedestrian Network

Under Alternative 2, beyond providing connections to the future multiuse trail that would serve all three gates and the trail completed as part of the new Frederick Douglass Memorial Bridge project. , pedestrian improvements are not proposed. Short-term, adverse effects may occur along the sidewalks on Overlook Avenue SW south of Chappie James Boulevard associated with traffic effect mitigation measures at that

location. Recommendations for minimizing the short-term effects on sidewalks during construction are presented in Appendix F, Section 8.

Bicycle Network

Under Alternative 2, beyond providing connections to the planned multiuse trail south of Firth Sterling Gate and the trail completed as part of the new Frederick Douglass Memorial Bridge project, bicycle lanes or paths are not proposed.

Public Transit

Under Alternative 2, transit ridership is not expected to increase significantly; however, bus routes, scheduling, and stop locations are expected to be updated as conditions require (e.g., WMATA's Better Bus Program), and as operators periodically adjust bus routes.

Truck Access

Under Alternative 2, truck traffic would increase slightly from the regularly scheduled deliveries to the installation. Minimal effects on truck access in the study area are expected. During construction, there would be a short-term increase in the number of trucks traveling on South Capitol Street and Defense Boulevard SW to deliver construction equipment, materials, and refuse to and from construction sites located on the installation. Recommendations for minimizing the short-term effects of increased truck traffic during construction are presented in Appendix F, Section 8.

Parking

No changes to publicly available parking are expected in the study area under Alternative 2, and there would be no measurable, long-term effects on parking in the study area. Alternative 2 would require temporary parking areas on the installation for construction workers and trucks. To minimize short-term effects, the installation would limit parking for construction workers to within the construction sites and laydown areas. Laydown areas would be located near or at the construction sites. These areas may be temporary or may be used during the entire construction duration, depending on construction needs. None of these temporary parking areas would be located off the installation. Recommendations for minimizing the short-term effects on parking during construction are presented in Appendix F, Section 8.

Traffic (Vehicular)

Short-term, adverse effects on traffic may occur from increased truck traffic on South Capitol Street and Defense Boulevard SW to and from construction sites located on the installation. Contractors are expected to follow a construction management plan to reduce effects from trucking activity on the roadway network during peak hours. Recommendations for minimizing the short-term effects on traffic during construction are presented in Appendix F, Section 8.

The vehicle trip generation and distribution assumptions described in Section 4.2.2 of the Transportation Study (Appendix F) are the foundation for determining the effects of Alternative 2. Section 4.3.3 of Appendix F analyzes intersection operations and queuing results under Alternative 2 and compares them to the No Action Alternative.

Alternative 2 Intersection Operations Analysis

Based on the Synchro signalized intersection analysis results, several signalized intersections and intersection approaches in the traffic study area would operate at satisfactory conditions under Alternative 2 during the AM and PM peak hour periods. However, based on Synchro analysis results, the following signalized intersections and intersection approaches in the study area would operate under unsatisfactory conditions (LOS E or worse) during peak hours under Alternative 2:

- Suitland Parkway SE and I-295 SB Off-ramp (Intersection #1)

  - Off-ramp from southbound I-295 to southeast-bound Suitland Parkway SE during the AM and PM peak hour (shown as the NB approach in the summary tables)

- Suitland Parkway SE and I-295 NB Off-ramp/I-295 NB On-ramp (Intersection #2)
  - Off-ramp from northbound I-295 to Suitland Parkway SE during the AM peak hour (shown as EB approach in the summary tables)
  - Northwest-bound Suitland Parkway SE during the AM and PM peak hour
- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3)
  - Northbound Suitland Parkway SE during the AM and PM peak hour
  - Southbound Suitland Parkway SE during the AM and PM peak hour
  - Eastbound Firth Sterling Avenue SE during the AM and PM peak hour
  - Westbound Firth Sterling Avenue SE during the AM peak hour
- I-295 NB On-ramp/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11)
  - Northbound I-295 NB Off-ramp during the AM peak hour
- Overlook Avenue SW and Chappie James Boulevard SW (Intersection #14)
  - Southeast-bound Chappie James Boulevard SW during the PM peak hour
- Overlook Avenue SW and Chesapeake Street SW (Intersection #15)
  - Northbound Overlook Avenue SW during the AM peak hour
  - Southbound Overlook Avenue SW during the PM peak hour
- Overlook Avenue SW and NRL Main Gate/Laboratory Road SW (Intersection #16)
  - Southbound Overlook Avenue SW during the AM and PM peak hour

Table 3-30 and Table 3-31 contain the overall intersection LOS grades for the AM and PM peak hours under Alternative 2 compared to the No Action Alternative. The tables show that the study intersections that are unsatisfactory under the No Action Alternative (LOS E or F, highlighted in yellow) would experience no change in LOS under Alternative 2. The net difference in average vehicle delay for most of these unsatisfactory intersections would be minimal, with delay times either minimally changing or improving. For I-295 NB On-ramp/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11), the overall intersection would degrade from LOS C under the No Action Alternative to LOS F under Alternative 2 during the AM peak hour. For Overlook Avenue SW and Chesapeake Street SW (Intersection #15), the overall intersection would degrade from LOS D under the No Action Alternative to LOS F under Alternative 2 during the AM peak hour. During the PM peak hour, Overlook Avenue SW and Chesapeake Street SW (Intersection #15) would degrade from LOS E under the No Action Alternative to LOS F under Alternative 2; and Overlook Avenue SW and NRL Main Gate/Laboratory Road SW (Intersection #16) would degrade from LOS C under the No Action Alternative to LOS F under Alternative 2.

The overall intersection LOS grades are depicted in Figure 3-23, Figure 3-24, and Figure 3-25 for the AM and PM peak hours under Alternative 2. Appendix F, Section 4.3.3.1, contains the detailed results of the LOS capacity analysis and the intersection vehicle delay comparing the No Action Alternative with Alternative 2 during the AM and PM peak hours.

Table 3-30: Alternative 2 Intersection Operations (AM Peak Hour)

No.	Intersection	2030 No Action Alternative Condition: AM Delay (seconds/vehicle)	2030 No Action Alternative Condition: AM LOS	2030 No Action Alternative Condition: AM Check	2030 Alternative 2 Condition: AM Delay (seconds/ vehicle)	2030 Alternative 2 Condition: AM LOS	2030 Alternative 2 Condition: AM Check	Net Difference of Average Delay (seconds/vehicle)	Net Change in LOS
1	I-295 SB Ramps & Suitland Pkwy SE	18.7	B	Pass	18.7	B	Pass	No Change	No Change
2	Suitland Pkwy SE & I-295 NB Off-Ramp/ I-295 NB On-Ramp	153.7	F	Fail	153.8	F	Fail	+0.1	No Change
3	Firth Sterling Ave SE/Firth Sterling Ave SE & Suitland Pkwy	131.2	F	Fail	131.1	F	Fail	-0.1	No Change
4	Sumner Rd SE/Barry Rd SE & Firth Sterling Ave SE	10.9	B	Pass	11.0	B	Pass	+0.1	No Change
5	Eaton Rd SE & Firth Sterling Ave SE	7.1	A	Pass	7.2	A	Pass	+0.1	No Change
6	St. Elizabeth Rd SE & Stevens Rd SE & Firth Sterling Ave SE	17.1	B	Pass	17.2	B	Pass	+0.1	No Change
7	South Capitol St & Defense Blvd/ Firth Sterling Ave SE	32.9	C	Pass	32.4	C	Pass	-0.5	No Change

No.	Intersection	2030 No Action Alternative Condition: AM Delay (seconds/vehicle)	2030 No Action Alternative Condition: AM LOS	2030 No Action Alternative Condition: AM Check	2030 Alternative 2 Condition: AM Delay (seconds/ vehicle)	2030 Alternative 2 Condition: AM LOS	2030 Alternative 2 Condition: AM Check	Net Difference of Average Delay (seconds/vehicle)	Net Change in LOS
8	S Capitol St SB Ramps & MacDill Blvd SW/Malcolm X Ave	16.8	B	Pass	22.1	C	Pass	+5.3	Worse LOS
9	S Capitol St NB Ramps & Malcolm X Ave SE	21.3	C	Pass	26.6	C	Pass	+5.3	No Change
11	I-295 NB Ramp/ Dorothea Dix Ave SE & Malcolm X Ave SE	34.4	C	Pass	87.8	F	Fail	+53.4	Worse LOS
12	I-295 SB Ramps & Crossover	8.2	A	Pass	8.2	A	Pass	No Change	No Change
13	Dorothea Dix Ave SE & Crossover & I-295 NB Ramp	7.7	A	Pass	8.0	A	Pass	+0.3	No Change
14	Overlook Ave SW & Chappie James Blvd	39.3	D	Pass	8.4	A	Pass	-30.9	Better LOS
15	Overlook Ave SW & Chesapeake St SW	50.8	D	Pass	86.5	F	Fail	+35.7	Worse LOS
16	Overlook Ave SW & NRL Main Gate/ Laboratory Rd SW	193.7	F	Fail	62.8	E	Fail	-130.9	Better LOS

Key: LOS = Level of Service; Pass = LOS D or better; Fail = LOS E or LOS F
Notes: Synchro signalized intersection analysis; HCM criteria. Delay is measured in seconds per vehicle. Intersection #10 is not included in this table because it is unsignalized.

Table 3-31: Alternative 2 Intersection Operations (PM Peak Hour)

No.	Intersection	2030 No Action Alternative Condition: PM Delay (seconds/vehicle)	2030 No Action Alternative Condition: PM LOS	2030 No Action Alternative Condition: PM Check	2030 Alternative 2 Condition: PM Delay (seconds/ vehicle)	2030 Alternative 2 Condition: PM LOS	2030 Alternative 2 Condition: PM Check	Net Difference of Average Delay (seconds/vehicle)	Net Change in LOS
1	I-295 SB Ramps & Suitland Pkwy SE	20.6	C	Pass	20.6	C	Pass	No Change	No Change
2	Suitland Pkwy SE & I-295 NB Off-Ramp/ I-295 NB On-Ramp	68.0	E	Fail	67.7	E	Fail	-0.3	No Change
3	Firth Sterling Ave SE/Firth Sterling Ave SE & Suitland Pkwy	223.1	F	Fail	222.4	F	Fail	-0.7	No Change
4	Sumner Rd SE/Barry Rd SE & Firth Sterling Ave SE	7.8	A	Pass	7.8	A	Pass	No Change	No Change
5	Eaton Rd SE & Firth Sterling Ave SE	4.6	A	Pass	4.6	A	Pass	No Change	No Change
6	St. Elizabeth Rd SE & Stevens Rd SE & Firth Sterling Ave SE	19.5	B	Pass	19.6	B	Pass	+0.1	No Change
7	South Capitol St & Defense Blvd/Firth Sterling Ave SE	30.2	C	Pass	29.9	C	Pass	-0.3	No Change

No.	Intersection	2030 No Action Alternative Condition: PM Delay (seconds/vehicle)	2030 No Action Alternative Condition: PM LOS	2030 No Action Alternative Condition: PM Check	2030 Alternative 2 Condition: PM Delay (seconds/ vehicle)	2030 Alternative 2 Condition: PM LOS	2030 Alternative 2 Condition: PM Check	Net Difference of Average Delay (seconds/vehicle)	Net Change in LOS
8	S Capitol St SB Ramps & MacDill Blvd SW/ Malcolm X Ave	29.2	C	Pass	52.3	D	Pass	+23.1	Worse LOS
9	S Capitol St NB Ramps & Malcolm X Ave SE	11.1	B	Pass	9.8	A	Pass	-1.3	No Change
11	I-295 NB Ramp/ Dorothea Dix Ave SE & Malcolm X Ave SE	12.9	B	Pass	11.7	B	Pass	-1.2	No Change
12	I-295 SB Ramps & Crossover	13.2	B	Pass	13.2	B	Pass	No Change	No Change
13	Dorothea Dix Ave SE & Crossover & I-295 NB Ramp	4.5	A	Pass	4.5	A	Pass	No Change	No Change
14	Overlook Ave SW & Chappie James Blvd	287.5	F	Fail	77.7	E	Fail	-209.8	Better LOS
15	Overlook Ave SW & Chesapeake St SW	73.7	E	Fail	84.0	F	Fail	+10.3	Worse LOS
16	Overlook Ave SW & NRL Main Gate/ Laboratory Rd SW	26.4	C	Pass	137.9	F	Fail	+111.5	Worse LOS

Key: LOS = Level of Service; Pass = LOS D or better; Fail = LOS E or LOS F
Notes: Synchro signalized intersection analysis; HCM criteria. Delay is measured in seconds per vehicle. Intersection #10 is not included in this table because it is unsignalized.

Figure 3-23: Alternative 2—AM and PM Peak Hour LOS—Firth Sterling Gate

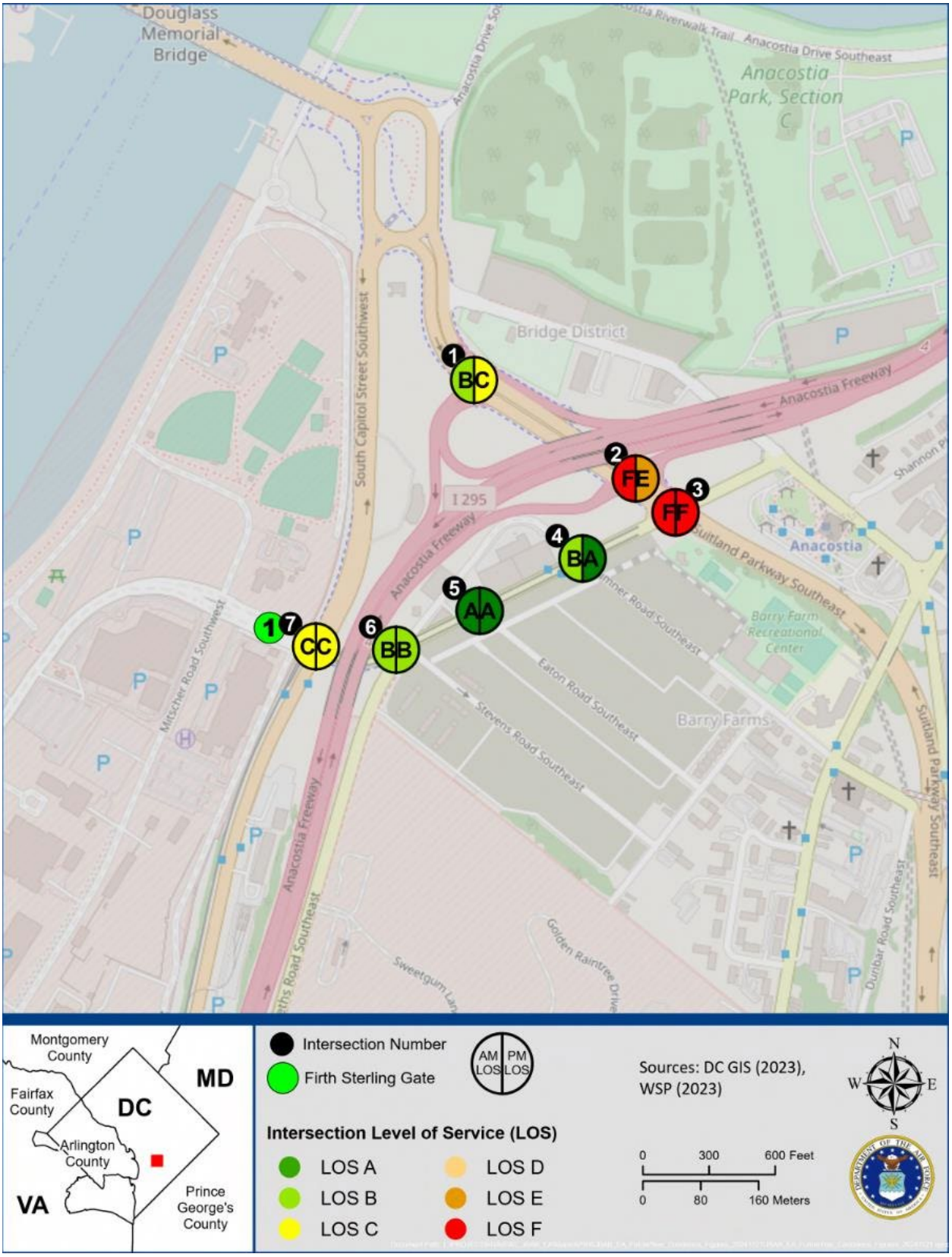


Figure 3-24: Alternative 2—AM and PM Peak Hour LOS—Arnold Gate

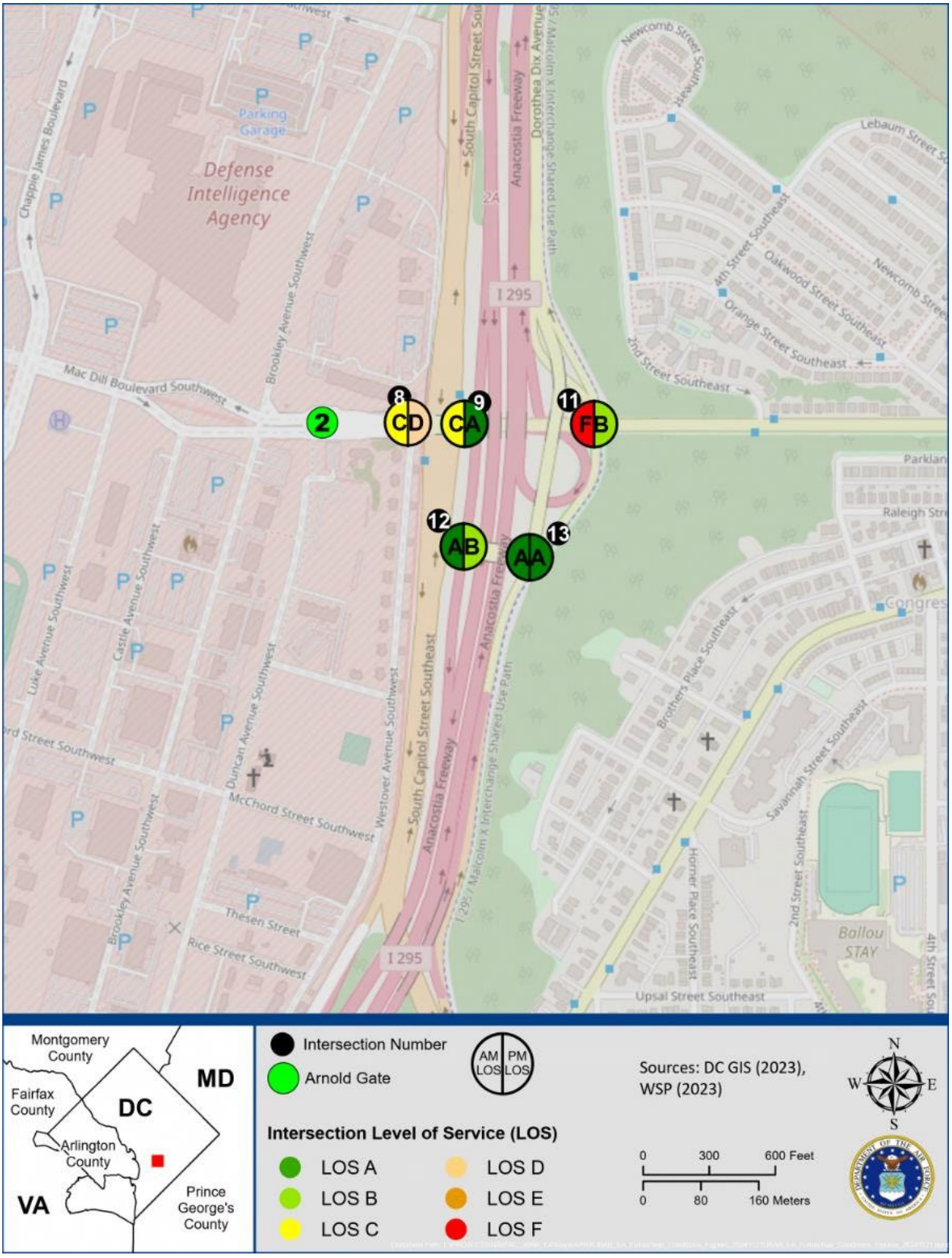
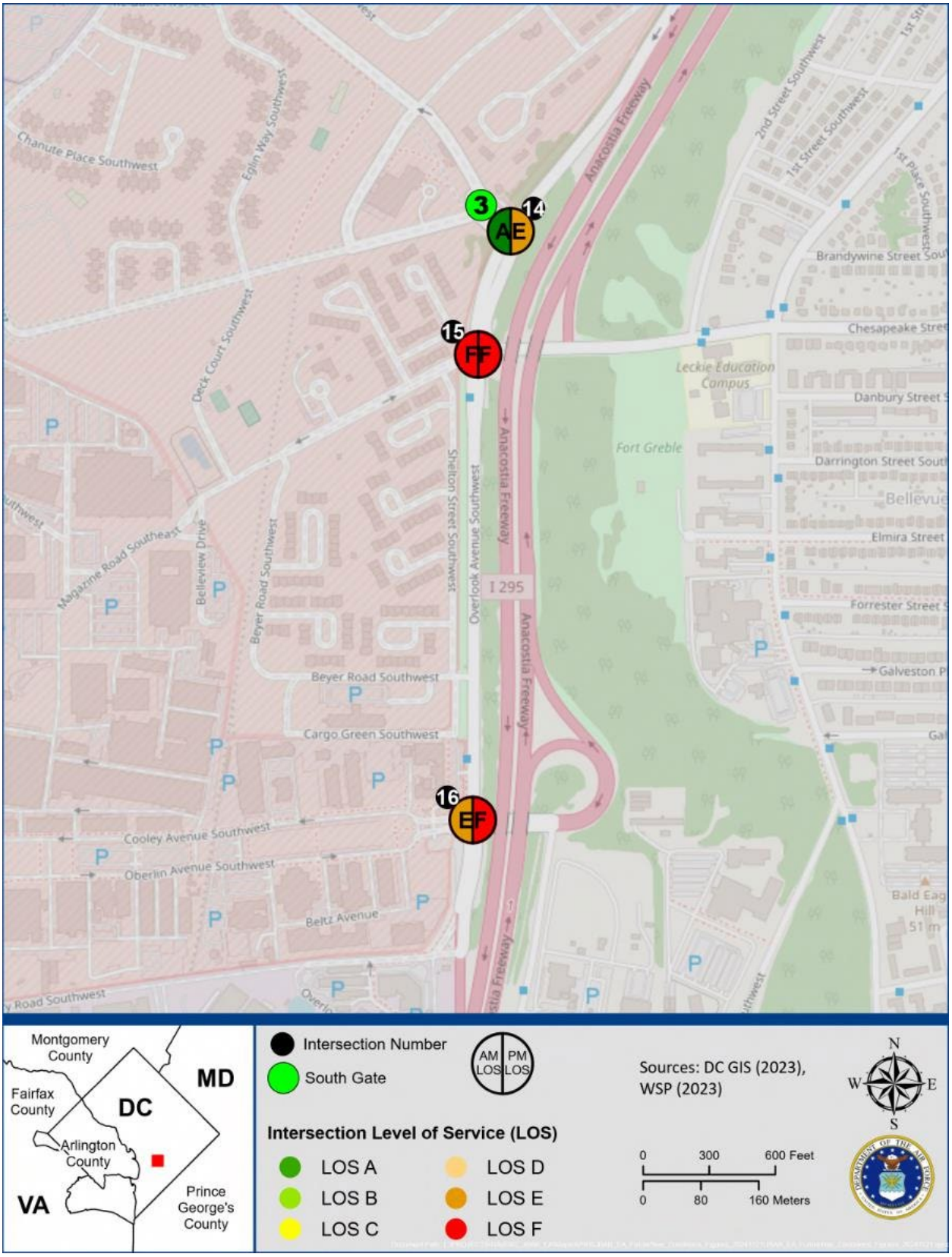


Figure 3-25: Alternative 2—AM and PM Peak Hour LOS—South Gate



Alternative 2 Intersection Queuing Analysis

Based on the Synchro queue results of all study intersections, several signalized intersections have lane groups that would experience queuing lengths exceeding the available storage capacity. The following lane groups, with a comparison to the queues for the No Action Alternative, would exceed the available storage under Alternative 2:

- Suitland Parkway SE and I-295 NB Off-ramp/I-295 NB On-ramp (Intersection #2)
    - Off-ramp from northbound I-295 to northwest-bound Suitland Parkway SE during the AM peak hour (shown as the EB approach in the summary tables)
    - Southeast-bound Suitland Parkway SE (though movement) during the PM peak hour
- Suitland Parkway SE and Firth Sterling Avenue SE (Intersection #3)
    - Southbound Suitland Parkway SE during the AM and PM peak hour
    - Northbound Suitland Parkway SE (through movement) during the AM peak hour
    - Eastbound Firth Sterling Avenue SW during the AM and PM peak hour
    - Westbound Fifth Sterling Avenue SE (right turn movement) during the AM and PM peak hour
- Malcolm X Avenue SE and S Capitol Street NB ramps (Intersection #9)
    - Eastbound Malcolm X Avenue SE (through movement) during the AM and PM peak hour
- Overlook Avenue SW and Chesapeake Street SW (Intersection #15)
    - Southbound Overlook Avenue SW (through movement) during the PM peak period

All other intersection lane groups would experience queues that are adequately stored. Queuing results comparing Alternative 2 to the No Action Alternative are depicted in Appendix F, Section 4.3.3.2.

Based on the number of inspection lanes at each of the three JBAB gates, the projected highest hourly volume entering each gate, and the average inspection time per vehicle (measured at the existing gates), the queues entering the gates are not expected to spill back into the adjacent signalized intersection at any time.

Alternative 2 Summary

Under Alternative 2, effects for the pedestrian network, bicycle network, or transit would be minimal. Short-term effects to sidewalks associated with traffic effect mitigation measures may occur along Overlook Avenue SW south of Chappie James Boulevard. Short-term, adverse effects to truck access and traffic may occur during construction activity within the installation, due to a temporary increase in truck trips moving on and off the construction sites. For traffic under Alternative 2, there would be long-term, adverse effects. Based on the Synchro analysis performed for this study, the additional volume of vehicles would cause the degradation of overall intersection levels of service for a few intersections when comparing the No Action Alternative with Alternative 2. During the AM peak hour, at I-295 NB On-ramp/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11), the overall intersection would degrade from LOS C to LOS F; and at Overlook Avenue SW and Chesapeake Street SW (Intersection #15), the overall intersection would degrade from LOS D to LOS F. During the PM peak hour, at Overlook Avenue SW and Chesapeake Street SW (Intersection #15), the overall intersection would degrade from LOS E to LOS F; and at Overlook Avenue SW and NRL Main Gate/Laboratory Road SW (Intersection #16), the overall intersection would degrade from LOS C to LOS F. Under Alternative 2, several queues would increase slightly, while others would decrease slightly, but the overall effect would be comparable to the No Action Alternative.

Therefore, based on DDOT's "Significant Impact Policy" in the DDOT CTR guidelines, when comparing the No Action Alternative with Alternative 2, the following intersections would require mitigation:

- I-295 NB On-ramps/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11) during the AM peak hour, because the overall intersection worsens from LOS C under the No Action Alternative to LOS F under Alternative 2 during the AM peak hour
- Overlook Avenue SW and Chesapeake Street SW (Intersection #15) during the AM and PM peak hour, because the overall intersection worsens from LOS D and LOS E under the No Action Alternative to LOS F under Alternative 2 during the AM and PM peak hours, respectively
- Overlook Avenue SW and NRL Main Gate/Laboratory Road SW (Intersection #16) during the PM peak hour, because the overall intersection worsens from LOS C under the No Action Alternative to LOS F under Alternative 2 during the PM peak hour

Required measures to improve Alternative 2 relative to the No Action Alternative were developed for each intersection that requires mitigation and are elaborated in Section 4.3.4 of Appendix F. The mitigation option implemented to improve traffic options at the aforementioned intersections would involve optimizing the signal timing splits. However, for Intersections #15, and #16, the only potential mitigation option that could be implemented to improve traffic performance along Overlook Avenue SW during the PM peak hour is to add a second southbound travel lane between Chesapeake Street SW and Laboratory Road SW. The southbound lane configuration at Overlook Avenue and Chesapeake would consist of one dedicated left turn lane, one dedicated through lane, and one shared through-right lane. The second southbound lane could continue through the intersection and taper off about 1,000 feet south of the Chesapeake Street. This configuration would require minor adjustments to the road alignment, the elimination of parking along Overlook Avenue SE, and reconstruction of the concrete median.

Section 4.3.4 of Appendix F presents detailed results of the intersection operations analysis that demonstrate the effectiveness of the mitigation to minimize the long-term, adverse effects on traffic.

Therefore, if Alternative 2 were selected, mitigation would be required to offset the anticipated traffic effects.

3.9 Summary

Table 3-32 provides a summary of the potential effects on the resource areas associated with the No Action Alternative and the two action alternatives.

Table 3-32: Summary of the Potential Effects on Resource Areas

Resource Area	No Action Alternative	Alternative 1: Implement IDP Five-Year Projects (Preferred Alternative)	Alternative 2: Alternative Siting for IDP Five-Year Projects
Air Quality	No change to existing air quality conditions. No significant effects.	Short-term, minor effects on air quality from demolition and construction activities. Long-term, minor effects from operations and vehicular travel from increased personnel. No significant effects.	Effects would be similar to Alternative 1, but slightly less, since slightly less criteria pollutant emissions would occur during construction. Intensity would still be the same (minor). No significant effects.
Water Resources	No change to existing water resources conditions. No significant effects.	Short-term, minor effects on groundwater, surface water, and floodplains from construction activities. Long-term, minor effects on groundwater, surface water, and floodplains from increased impervious surfaces. No effects on wetlands. No significant effects.	Effects would be similar to Alternative 1, but slightly less, since proposed ground disturbance and impervious surfaces would be slightly less. Intensity would still be the same (minor). No significant effects.
Biological Resources	No change to existing biological resources conditions. No significant effects.	Direct, minor effects on vegetation. Short-term, negligible wildlife effects. No long-term effects to wildlife habitat. No significant effects on threatened or endangered species; coordination with USFWS is ongoing. No significant effects.	Effects would be similar to Alternative 1, but slightly less effects on monarch butterfly host plant milkweed. No significant effects.
Cultural Resources	No change to existing cultural resources conditions. No significant effects.	The DAF will consult with the DC SHPO on each individual project as sufficient information to inform consultation becomes available. DAF would first avoid, then minimize effects to historic resources. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, all projects would result in no significant effects.	The DAF will consult with the DC SHPO on each individual project as sufficient information to inform consultation becomes available. DAF would first avoid, then minimize effects to historic resources. If adverse effects cannot be avoided, they would be mitigated through an agreement with the DC SHPO and other consulting parties as appropriate. If appropriate mitigation is identified and implemented, all projects would result in no significant effects.

Resource Area	No Action Alternative	Alternative 1: Implement IDP Five-Year Projects (Preferred Alternative)	Alternative 2: Alternative Siting for IDP Five-Year Projects
Infrastructure	No change to existing infrastructure conditions. No significant effects.	Short-term, minor effects to utility infrastructure and services at JBAB during construction. Long-term, minor, adverse effects due to increased demand on infrastructure. Long-term, beneficial effects on electrical reliability at JBAB. No significant effects.	Effects would be similar to Alternative 1. No significant effects.
Noise	No change to existing noise levels. No significant effects.	Short-term, minor effects from construction activities. Long-term, minor effects from increase in traffic. Noise levels would not be uncommon within the existing urban environment. No significant effects.	Effects would be similar to Alternative 1. No significant effects.
Hazardous Materials and Waste	No change to existing conditions. No significant effects.	Short-term, minor, adverse effects during demolition and construction. Long-term, negligible, beneficial effects from reduced amounts of hazardous materials. No significant effects.	Effects would be similar to Alternative 1. No significant effects.
Transportation	No changes to the transportation network from the Proposed Action. Transportation effects would occur within the region due to external planned developments and background growth. Adverse long-term traffic effects would occur from five planned developments external to the JBAB installation.	Minimal effects on the pedestrian, bicycle, and transit networks. Long-term, adverse effects on traffic due to additional volume of vehicles. Three intersections would require mitigation to offset anticipated traffic effects. With mitigation, no significant effects.	Minimal effects on the pedestrian, bicycle, and transit networks. Long-term, adverse effects on traffic due to additional volume of vehicles. Three intersections would require mitigation to offset anticipated traffic effects. With mitigation, no significant effects.

Key: AFB = Air Force Base; DAF = Department of the Air Force; DC SHPO = District of Columbia State Historic Preservation Office; IDP = Installation Development Plan; JBAB = Joint Base Anacostia-Bolling; NRHP = National Register of Historical Places; USFWS = U.S. Fish and Wildlife Service.

4 Reasonably Foreseeable Actions and Cumulative Effects

Cumulative effects are those effects on the environment that result from the incremental effects of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions. Cumulative actions include those taken by federal or non-federal agencies or individuals. Cumulative effects can result from actions with individually minor but collectively significant effects taking place over a period of time. The scope of the cumulative effects analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. The cumulative effects analysis qualitatively considers other reasonably foreseeable actions occurring within a similar time frame and geographic extent as the Proposed Action. This EA does not consider future actions that are speculative.

4.1 Past, Present, and Reasonably Foreseeable Actions

4.1.1 Projects on JBAB Property

Past, current, and reasonably foreseeable actions or projects at JBAB are summarized in Table 4-1.

Table 4-1: Past, Current, and Reasonably Forseeable Actions on JBAB

Project Name	*Project Description*
Parking Garages 357 and 358	These are both two-story garages in the northern part of JBAB. These buildings were recently demolished to create a single surface lot.
Construction of a LVIS and Access Control Point	Construction and operation of a Unified Facilities Criteria compliant LVIS and access control point at Firth Sterling Gate at JBAB is being proposed. In May of 2024, a Final EA was prepared for this project. The Proposed Action is needed to improve overall safety, security, and traffic flow effectiveness at JBAB. The Proposed Action is estimated to require 18–24 months to construct, with construction anticipated to begin in the summer of 2026.
Building 29 Demolition	Building 29, a 12,009 square foot facility, is the former Naval Supply Systems Command Postal Service at JBAB. Building 29 is located on the western side of the installation, adjacent to the Anacostia River. This building is at high risk for flooding and is expected to negatively affect the installation's ability to fight floods and repair the FRMS/levee system in the event of a failure. JBAB and DC SHPO have entered into a Memorandum of Agreement with delineated mitigation for the demolition of Building 29. The demolition of Building 29 is pending.
Building 73 Demolition	Building 73 is an abandoned heat plant located at the northwestern side of JBAB near Building 29. JBAB and DC SHPO have entered into a Memorandum of Agreement with delineated mitigation for the demolition of this facility. The demolition of Building 73 is pending.
Building 10106 Demolition	Building 10106 is a storage facility located at the southwestern side of JBAB adjacent to the Potomac River. Demolition of Building 10106 is planned but not funded at this time.
Building 628 Demolition	Building 628 was the distinguished visitors quarters and is located within the Housing and Community Support District. Building 628 is planned for demolition in the future.

Project Name	*Project Description*
Flood Risk Management System Repair or Replacement	The FRMS, composed of an earthen levee, T-walls, and seawall at the northern end of JBAB are in a region that is prone to flooding. The soil at this location is largely composed of dredged fill, and this area has low elevation; thus, subsidence is a major concern. The portion of the FRMS behind Buildings 72, 47, 29, and 94 has major deficiencies resulting in the full system being decertified by the USACE. Once the FRMS is repaired, the system will be recertified, and the floodplain is expected to be mitigated to the maximum extent practicable. The NEPA process began in FY2024, with construction tentatively planned for FY2029.
LEARN DC Public Charter School	A new public charter school was constructed in 2021 on the southern end of JBAB near Hickam Village Family Housing along Duncan Street SW. For the 2024–2025 school year, the school will serve pre-kindergarten-3 through fourth grade students for JBAB military residents and civilian residents in Washington, DC. Initial site development included temporary buildings, perimeter fencing, parking, and utility connections. The school plans to serve one additional grade level each year up to eighth grade. The students are presently housed in temporary buildings on the six-acre site where the permanent buildings will be constructed. Design has not yet begun for the permanent facility, but construction of the permanent facilities, landscaping, outdoor spaces, and paving is anticipated to be completed in 2028. An EA and Supplemental EA were completed for this project in 2020 and 2021, respectively.
Potential Future Use of Northern JBAB	The Navy recently completed an EIS in 2023 for acquisition of land adjacent to the Washington Navy Yard. The Navy selected the alternative that included land acquisition through land exchange that involves future purchase options to the Navy-owned portion of JBAB. The acquisition of these parcels by a private developer would be subject to certain restrictions and conditions including a separate, future NEPA analysis, a national security review, and other restrictive easements to protect existing and future military operations. The developer has 10 years to enact their rights to acquire the parcels, at which point the Navy would initiate the NEPA process as well as other studies and reviews. While this development is still highly speculative at this time, it is reasonable to assume that development on the parcels would be dense, adding to an existing highly developed area.

4.1.2 Projects Outside of JBAB Property

Past, current, and reasonably foreseeable actions or projects outside of JBAB are summarized in Table 4-2.

Table 4-2: Past, Current, and Reasonably Forseeable Actions Outside of JBAB

Project Name	*Project Description*
South Capitol Street Trail Construction	This trail will be constructed along the southeastern boundary of the installation. The project will extend the Anacostia Riverwalk Trail into the southernmost areas of Washington, DC, filling a bicycle and pedestrian travel void and providing a new commuting option for JBAB and St. Elizabeths West Campus employees. The project has been in design development by DDOT over the last few years, with construction slated to begin in 2025 (Anacostia Waterfront Initiative, 2022; NCPC, 2024b). The potential implementation strategy would include four phases. Phase 1 includes constructing interim network connections from Oxon Run Park and points south to the Department of Homeland Security campus and points north. Phase 2 includes trail construction in the DC Village area, which would connect to existing and ongoing redevelopment in the area. Phase 3 includes the continuation of the trail construction from Overlook Avenue to Malcolm X Avenue. Phase 4 is the final section of the South Capitol Street Trail construction from Malcolm X Avenue to Firth Sterling Avenue. The sections in Phase 3 and 4 are along the boundary of the installation (DDOT, n.d.a).
St. Elizabeths Campus Redevelopment	The St. Elizabeths parcel is the site of the government-run St. Elizabeths Hospital, which was established in 1855 to provide mental health facilities for the federal government and Washington, DC. St. Elizabeths is divided into two campuses. The West Campus is owned and controlled by the U.S. General Services Administration and is planned as a high-security campus for federal agencies. The U.S. Coast Guard Headquarters on-site houses 3,700 staff. The Department of Homeland Security headquarters, completed in 2019, houses an additional 800 employees. After a *Master Plan Amendment 2 Final EIS* was issued in August 2020, Alternative B was selected, which will add 1.2 million gross SF of office space in two separate structures, ranging from three to eight stories, on the plateau site of the West Campus. An additional 175,000 gross SF of office space in one two-story building will also be added on the Sweetgum Lane site. An additional 1,014 parking spaces will be added to the proposed underground parking garages and several buildings will be demolished (GSA, 2023). The 180-acre East Campus, owned by Washington, DC, is located across Martin Luther King Jr. Avenue from the West Campus. The long-term plan for the East Campus includes a 567,000 square foot mixed-use project featuring two residential buildings (288 units), a 200,000 square foot office building, a 125-room hotel, and up to 50,000 SF of retail. Construction of these projects is expected to begin in August 2024 and to be complete by March 2026 (DC Government, 2022). One project has already been constructed on the East Campus—the George Washington University Hospital, which is scheduled to open in late 2024. The hospital will feature 136 beds, an ambulatory pavilion for physician officers and clinics, a 500-car garage, and a helipad (GW Medical Faculty Associates, 2022). A new 20,000 SF library is also expected to open on the East Campus by 2027 (DC Government, 2021).

Project Name	*Project Description*
Poplar Point 'Bridge District' Development	This development, formerly known as Columbian Quarter, occupies six acres of land along Anacostia Park, near the Anacostia Metro Station. When fully built out, the project will be composed of up to 2.5 million SF of mixed-use development. Phase 1 includes a 130-foot-tall building with more than 700 residential units atop tens of thousands of SF of restaurant, grocery, and retail space (Washburn, 2021). Construction broke ground in mid-2022, Phase 1 is slated to be completed in 2025, and subsequent phases will follow (Urban Turf, 2023). The property will be transferred to Washington, DC, from the federal government. A Request for Proposal was re-issued earlier in 2024 with the award expected in June 2024 (DC Government, 2024a).
Barry Farm Redevelopment	The Barry Farm neighborhood is located off Martin Luther King Jr. Avenue. New roads and utilities have already been constructed, and demolition occurred in 2020. The site is being redeveloped into a mixed-use community that includes approximately 900 residential units, 55,000 SF of commercial space, new roads, a central park, and new community facilities. The project is expected to be completed by 2030 (McGrath, 2022).
Reunion Square Development	This multi-phase, master planned development will consist of 1.5 million SF spread across nine buildings on approximately eight acres along Martin Luther King Jr. Avenue. Construction of this project started in mid-2021 (Reunion Square, n.d.). Development underway consists of 29,000 SF of retail, 38,000 SF of office space, a 231,000-square foot headquarters building for the Department of Health, a hotel, and 134 apartments (BLDUP, 2021). The Reunion Square Development project is slated for completion in 2025.
MLK Gateway Development	Located at the intersection of Good Hope Road and Martin Luther King Jr. Avenue SE, this project includes 20,000 SF of office space, 14,600 SF of retail space, and 45 parking spaces. Phase 1, which started in 2020 and was completed the following year, included the renovation of existing historic retail buildings on Good Hope Road. Phase 2, which started in 2021 and was completed in April 2024, included a new 55,000-square foot building for the Department of Housing and Community Development headquarters. This building created more than 200 on-site jobs (DC Government, 2023; The Menkiti Group, 2021; DC Government, 2024b).
Anacostia Metro Pedestrian Bridge	Construction of the Anacostia Metro Pedestrian Bridge will connect the south entrance site at the Anacostia Metrorail Station and the Barry Farm neighborhood. The approximately 3-acre south entrance site is the main access point for bicyclists and pedestrians in the surrounding neighborhood. The bridge would span the topography between Suitland Parkway and the Metrobus facilities, which currently prohibits pedestrian access to and from the Barry Farm neighborhood (DDOT, n.d.b) (DDOT, n.d.b).

4.2 Analysis of Cumulative Effects by Resource Area

4.2.1 Air Quality

For present and future actions, construction would generate short-term criteria pollutant and fugitive dust emissions while ground-disturbing activities are occurring. Air emissions are based on the size and complexity of the project and the extent to which activities would disturb the soil. All present and reasonably foreseeable future actions could collectively increase emissions of criteria pollutants temporarily in and around JBAB. Any new or modified stationary emissions sources would undergo appropriate permitting. Redevelopment surrounding JBAB could increase mobile source emissions as well as result in new stationary sources. New development projects would be expected to incorporate

high-efficiency heating and cooling, light fixtures, and sustainable window/exterior openings design, which would contribute to cumulative energy reductions.

Estimated construction and operational emissions resulting from the Proposed Action in this EA are well below *de minimis* thresholds. Per regulation, by demonstrating that this project would be below *de minimis* thresholds, the Proposed Action would not be considered significant individually or cumulatively within the airshed. Because Washington, DC, is in nonattainment/maintenance for criteria pollutants, all federal projects would require an applicability analysis to ensure general conformity. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable projects, would not result in significant cumulative effects on air quality.

GHGs are non-hazardous to human health at normal ambient concentrations. Therefore, the Proposed Action's GHGs emissions would have an insignificant effect on local air quality. However, cumulatively, local GHG emissions can contribute to global warming and associated effects.

The intensity of the Proposed Action's GHG effects was measured by comparing the estimated GHG emissions of the Proposed Actions to state, U.S., and global baseline GHG inventories. The effect intensity was determined by its annual net change in GHG emissions relative to global, national, and regional emissions. To contextualize the impact on a global scale, the Proposed Action's GHG emission change was evaluated against the state and U.S. annual emissions. Although the Proposed Action and other past, present, and reasonably foreseeable projects have increased or would further increase global GHG emissions, cumulatively, these emissions would be negligible when compared to regional and global emissions.

4.2.2 Water Resources

Construction and demolition activities occurring from other present and reasonably foreseeable projects have the potential to cause short-term, minor effects on water resources from runoff into local surface water bodies (i.e., the Anacostia and Potomac Rivers). Individual projects that disturb more than one acre require an NPDES permit and the associated erosion- and sediment-control and stormwater management plans. Projects in Washington, DC, that disturb more than 5,000 SF require a stormwater management plan as part of the building permit process. Furthermore, projects in Washington, DC, that disturb more than 50 SF require an erosion- and sediment-control plan. Such broad incorporation of erosion- and sediment-control and stormwater BMPs minimizes potentially adverse cumulative effects during short-term ground-disturbing activities.

The North End Levee and Seawall Repair or Replacement project would add long-term, beneficial contributions to water resources at JBAB by decreasing the likelihood of flood damage on the northern portion of the installation. Completion of the repairs to the FRMS/levee system would mitigate the designations of the 100- and 500-year floodplains on JBAB, such that most of the area would likely no longer be considered vulnerable to flood risk. The Proposed Action, when combined with other past, present, and reasonably foreseeable projects, would contribute cumulatively to the adverse effects on water resources; however, for reasons mentioned above, this cumulative effect is not anticipated to be significant.

4.2.3 Biological Resources

The past, present, and future projects listed in Section 4.1 could contribute directly or indirectly to adverse effects on biological resources. These projects would occur in an urban environment with limited wildlife or high-quality wildlife habitat. These projects could result in a loss of trees or vegetation. For instance, forest removal would occur under the St. Elizabeths Campus Redevelopment project; however, NCPC guidelines for tree replacement would be followed. Tree or vegetation removal could directly

affect wildlife and their habitat, including bat and migratory bird species. These effects could be minimized by tree replacement mitigation, time of year restrictions on tree clearing where needed to protect endangered bats, and adherence to federal and DC regulations. During construction of these projects, some noise and dust could be generated, which could affect wildlife in the short term. Larger, more mobile wildlife should be able to flee to adjacent vegetated areas. The projects listed in Section 4.1 would likely not affect the Shepherd Parkway forested habitat, which would provide habitat for any displaced wildlife including bats and migratory birds. Individual projects would be expected to have negligible to minor effects on biological resources. Therefore, the Proposed Action, when combined with past, present, and reasonably foreseeable future projects would not result in significant cumulative effects on biological resources.

4.2.4 Cultural Resources

The DAF meets its stewardship requirements for cultural resources under Sections 106 and 110 of the NHPA. The installation has an ICRMP that is a reference and a planning tool for management and preservation of cultural resources and preserving cultural resources while maintaining mission readiness. Consultation with the DC SHPO (and/or other appropriate parties) must be conducted prior to undertaking any action that may affect historic properties. In this way, the DAF works to identify, avoid, minimize, and/or mitigate any potential adverse effects on cultural resources when implementing individual projects. Therefore, cumulative effects on cultural resources from past, present, and reasonably foreseeable projects when considered in conjunction with the Proposed Action would not be significant.

4.2.5 Infrastructure

The cumulative effects of the Proposed Action, when combined with other past, present, and reasonably foreseeable actions, are anticipated to result in continued increases in demand on JBAB's infrastructure, including electrical, potable water, wastewater, stormwater, and natural gas systems. Much of this infrastructure is interconnected with and shared by entities outside of the installation, such as PEPCO for electricity and DC Water for potable water.

As other development and redevelopment projects proceed, both within the installation and the surrounding communities, the incremental demand on these shared infrastructure systems will require continued modernization and upgrades to maintain reliable and efficient operations. The collective effect of these projects will drive the need for improved infrastructure capacity and resilience. Upgrading outdated systems, expanding capacity, and implementing new technologies will enhance efficiency and reliability. Continued modernization of facilities is likely to equate to overall increased efficiencies. Improved technologies and infrastructure upgrades will likely reduce the overall increase in infrastructure demands, as more efficient facilities typically require less energy, water, and other resources to operate.

The combined effects of the Proposed Action and other development projects would lead to increased infrastructure demand, necessitating ongoing and proactive modernization efforts. Such modernization efforts would ensure the continued functionality and sustainability of JBAB's interconnected infrastructure systems while leveraging increased efficiencies to help minimize overall infrastructure demand. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable projects, would contribute cumulatively to the adverse effects on infrastructure; however, for reasons mentioned above, this cumulative effect is not anticipated to be significant.

4.2.6 Noise

Cumulative effects on the noise environment would occur if construction or demolition activities occurred in the same timeframe as the Proposed Action and in the vicinity of the noise-sensitive receptors

surrounding JBAB. Under the Proposed Action, demolition activities could begin in FY2025, and construction activities could last until FY2029, which is the same timeframe that the Barry Farm Redevelopment project is taking place. As a result, cumulative noise effects could occur from these projects and other projects listed in Section 4.1 that are not scheduled yet. Noise sensitive receptors on the installation include schools, medical facilities, and residences. Although some noise from construction activities would be louder than the typical sounds in the existing environment, the ambient noise environment at JBAB and the surrounding area is typical of an urban environment. The predominant sources of existing noise include military helicopter operations, commercial aircraft operations, vehicular traffic, and heavy equipment operation. Therefore, noise from construction equipment would not be unfamiliar to the surrounding populations. Cumulative construction noise effects from present and future actions within the study area would be intermittent and short-term. As listed in Section 4.1, there are numerous projects currently under development around JBAB; this trend is expected to continue in the future. The noise environment will be influenced by existing noise sources from the urban environment, increases in vehicular traffic, and changes in land uses from redevelopment. Therefore, the Proposed Action, when combined with other past, present, and reasonably foreseeable projects, would contribute cumulatively to the adverse effects of noise; however, for reasons mentioned above, this cumulative effect is not anticipated to be significant.

4.2.7 Hazardous Materials and Waste

The Proposed Action would be carried out in compliance with laws and regulations applicable to hazardous materials and waste. Implementation of BMPs and environmental protection measures would reduce the potential for an accidental release of hazardous materials. BMPs include maintaining construction equipment according to the manufacturer's specifications and placing drip mats under parked equipment as needed. Hazardous and petroleum waste generated at JBAB would be handled and disposed of in accordance with federal, state, and local regulations. It is anticipated that all other present and future actions would also be carried out in compliance with applicable laws and regulations. Therefore, cumulative effects from hazardous materials and waste from past, present, and reasonably foreseeable projects when considered in conjunction with the Proposed Action would be negligible.

4.2.8 Transportation

The past, present, and future projects generate trips that are, for the most part, captured in the transportation analysis under the No Action Alternative and the two action alternatives. Traffic volumes are expected to increase outside the installation along Firth Sterling Avenue, Suitland Parkway, Howard Road, Eaton Road, Sumner Road, and St. Elizabeths Avenue SE; South Capitol Street; Malcolm X Avenue SE; Overlook Avenue and Chappie James Boulevard SW; and the I-295 interchange ramps.

As presented in Section 3.8.2 of the Transportation Study (Appendix F), the analysis covers past and present projects already open and in operation (developments and roadway improvements) and the existing condition data collected in November 2022. As presented in Section 3.8.3 of the Transportation Study, the analysis covers future projects that include the proposed alternatives, five planned external developments, and the regional growth of trips, plus improvements to increase entry capacity at Firth Sterling Gate. The five planned external land use developments have a publicly established construction timeline and were deemed large enough or close enough to the project area. Including the Proposed Action and the planned external development projects provides an estimate of future vehicle trips through 2030. The cumulative effects for 2030 were studied as part of the transportation analysis and cover each transportation mode. The actions included in the analysis represent most of the potential growth to the transportation system. In addition, actions not included in the analysis may be required to include roadway improvements that would address any additional effects caused by the action.

Cumulative transportation effects that would occur with implementation of the Proposed Action are broken down by transportation mode. Cumulative effects on the pedestrian network would be long term and beneficial from the five external planned developments and DDOT pedestrian improvement projects that would provide new pedestrian connections and amenities, although, short-term, adverse effects may occur during pedestrian facility construction. Cumulative effects on the bicycle network would also be long term and beneficial from planned external and on-installation bicycle facilities, such as DDOT's plans to construct several new bicycle lanes and multiuse trails throughout the city. Cumulative effects on the transit network would be minor. The moderate increase in ridership generated from the five planned developments and background growth would be offset by routine route adjustments as well as proposed Metrobus and Metrorail improvements and recommendations, including the Momentum plan, Bus Priority Program, and 2025 Better Bus Network. Cumulative effects on the parking network would be long term and beneficial from the increase in parking spaces associated with the external planned developments.

Cumulative effects on the traffic network would be long term and adverse because vehicular operations would fail at the following intersections under each action alternative:

- Action Alternative 1
    - Suitland Parkway SE & Firth Sterling Avenue SE (Intersection #3)
    - South Capitol Street SB Ramps and MacDill Boulevard/Malcolm X Avenue SE (Intersection #8)
    - I-295 NB On-ramps/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11)
- Action Alternative 2
    - I-295 NB On-ramp/Dorothea Dix Avenue SE and Malcolm X Avenue SE (Intersection #11)
    - Overlook Avenue SW and Chesapeake Street SW (Intersection #15)
    - Overlook Avenue SW and NRL Main Gate/Laboratory Road SW (Intersection #16)

The effects on those intersections would occur as a result of the increase in vehicle trips generated by the Proposed Action. The Proposed Action is expected to add vehicle trips and contribute to an increase in delays and queues for these study intersections that meet or exceed the DDOT mitigation thresholds. However, mitigation for effects on traffic from the two action alternatives includes signal timing modifications and roadway geometric improvements that would minimize effects. With mitigations, implementation of the Proposed Action, combined with past, present, and reasonably foreseeable future projects, would not result in significant transportation effects within the study area.

5 Summary of Environmental Management and Mitigation

Table 5-1 below summarizes the environmental management and mitigation, as discussed in Chapter 3 of this EA, needed to offset potential environmental effects from the Proposed Action.

Table 5-1: Environmental Management and Mitigation

Best Management Practice	Description	Adverse Effects Reduced/Avoided
Tree replacement	Any trees removed would be replaced according to the NCPC's Tree Replacement Policy and JBAB's Installation Development Plan and IFS.	Negate loss of tree canopy in Washington, DC.
Construction equipment	Good housekeeping measures for construction equipment (i.e., POL) for optimal performance.	Prevent leaching of contaminants into groundwater and surface water.
Erosion and sediment control	Measures would be site-specific and developed following the site geotechnical report but could include standard measures such as appropriate scheduling and sequencing, silt fencing covering soil stockpiles, and watering exposed areas.	Limit erosion and sedimentation during construction to minimize effects on soil and water resources.
Floodplains	DAF would comply with the standards and requirements set forth under EO 11988, DTM-22-003, and UFC 3-201-01 for facilities and flood-susceptible utilities built in the floodplain, or pursue an exemption to these requirements.	Elevating facilities and utilities above base flood elevation projections would protect infrastructure. Alternatively, the anticipated FRMS/levee project would reinstate flood control to JBAB and the installation's FRMS would likely be recertified. Both measures would result in the proposed IDP project facilities and utilities not being at risk during 100-year flood events.
Stormwater control	Incorporated low-impact development and other stormwater measures to treat and store stormwater, including bioretention basins.	Ensure that post-development hydrology meets or improves pre-development hydrology, which improves stormwater quality and minimizes local flooding or drainage issues.

Best Management Practice	Description	Adverse Effects Reduced/Avoided
Fugitive dust control	Measures would be site-specific but could include wetting dry soil or using chemical additives to minimize wind erosion, stabilizing/covering soil stockpiles, stabilizing/planting disturbed areas that are not being actively worked, or using wheel-washing stations as vehicles enter or leave the active construction site.	Minimize particulate emissions during ground-disturbing activities on unpaved surfaces.
Safety protocols	All contractors performing construction and demolition activities would develop comprehensive health and safety plans detailing all potential hazards and site-specific guidance.	Minimize potential safety risks during construction and demolition activities.
Contaminated sites	If any soil and/or groundwater within the project sites is determined to be contaminated (such as with POL, PFAS/PFOA), soil and groundwater would be handled according to applicable environmental compliance regulations and DAF guidance.	Protect the health and safety of construction workers, and to prevent the spread of contaminated materials, if present.
Continued NHPA consultation	Once adequate project designs are available, DAF will complete consultation under Section 106 of the NHPA. DAF will first avoid, then minimize and/or mitigate potential adverse effects to historic properties through consultation with the DC SHPO. Mitigate any identified adverse effects under the terms of an individual project Section 106 consultation with the DC SHPO.	Protect historic properties in consultation with the DC SHPO during construction and demolition activities.
SOPs in the 2020 JBAB ICRMP	Avoid all historic properties where feasible and conduct archaeological investigations for each project where necessary.	Protect historic properties on JBAB in accordance with the JBAB ICRMP.
Traffic Mitigation	Mitigate the intersections identified in Section 3.8.3 for the alternative selected for implementation.	Improve traffic performance off-base to mitigate increased traffic associated with the Proposed Action.

Key: DAF = Department of the Air Force; DC = District of Columbia; EO = Executive Order; FRMS = Flood Risk Management System; ICRMP = Installation Cultural Resources Management Plan; IDP=Installation Development Plan; IFS = Installation Facility Standards; JBAB = Joint Base Anacostia-Bolling; NCPC=National Capital Planning Commission; NHPA = National Historic Preservation Act; PFAS=per- and polyfluoroalkyl substances; PFOA = perfluorooctanoic acid; POL=petroleum, oil, and lubricants; SHPO = State Historic Preservation Office; SOP = Standard Operating Procedure

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Appendix A Relevant Laws and Regulations

Appendix B Public Engagement and Agency Correspondence Materials

Appendix C Air Conformity Applicability Model Record of Air Analysis and Detail Report

Appendix D Noise Calculations

Appendix E Construction Noise Study for Five-Year Installation Development Plan at JBAB

Appendix F Transportation Study