DRAFT ENVIRONMENTAL ASSESSMENT

for the Proposed Construction of Unaccompanied Enlisted Personnel Housing at

JOINT BASE MYER-HENDERSON HALL

ARLINGTON COUNTY, VIRGINIA

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September 2023

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Draft Environmental Assessment for the Proposed Construction of Unaccompanied Enlisted Personnel Housing at Joint Base Myer-Henderson Hall, Arlington County, Virginia

Prepared for:
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Joint Base Myer-Henderson Hall
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September 2023

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DRAFT FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT
CONSTRUCTION OF UNACCOMPANIED ENLISTED PERSONNEL HOUSING
Joint Base Myer-Henderson Hall, Arlington County, Virginia

Name of Proposed Action: Construction of Unaccompanied Enlisted Personnel Housing at Joint Base Myer-Henderson Hall, Virginia.

Purpose and Need of Proposed Action: The purpose of the Proposed Action is to provide additional, updated housing for Joint Base Myer-Henderson Hall (JBM-HH) through the construction of Unaccompanied Enlisted Personnel Housing (UEPH) to include living quarter suites with 200 bedrooms. Currently, existing historic barracks— Buildings 250 and 251—are in failed and failing condition, are insufficient to support active-duty military, and do not meet Army Standards. Combined, the two barracks provide approximately 75 service member beds. Fort Myer on JBM-HH has a current deficit of 200 beds needed for personnel. The need for the Proposed Action is to provide barracks that meet the Army's Standard for building design to reduce the deficit and provide quality housing to service members of The Old Guard. The Old Guard provides ceremonial duties at Arlington National Cemetery and security for the nation's capital as a first response infantry unit. The consolidated housing on the Installation would support a more cohesive Army unit for training, mission readiness, and mobilization. Additionally, many of the personnel that would move into these barracks are currently housed off-base, competing for space within the local housing market.

Description of Proposed Action: JBM-HH proposes to construct new UEPH to include living quarter suites with 200 bedrooms.

This Proposed Action involves the construction of two equal size, new military UEPH barracks and the restoration of approximately two acres of existing grass and scattered tree landscape to natural habitat. The barracks would be located along Sheridan Avenue, parallel to each other. The Proposed Action would also involve the construction of a parking lot with capacity for 65 vehicles. The proposed parking lot would be located adjacent to and south of the southernmost end of the newly constructed barracks. Additionally, the Proposed Action would include the realignment of Schoolhouse Road; extension of the pedestrian corridor along the eastern edge of the new barracks from the current end point at the circle north of the proposed barracks to Schoolhouse Road; construction of new access roads, fire lanes, equipment pads, and walkways; new utilities; and landscaping.

The proposed barracks would both be "U" shaped, with courtyard areas in the middle. The UEPH barracks would not block the existing pedestrian corridor that runs between McNair Road and Sheridan Avenue and would also maintain a 0.75-acre open field area east of the new barracks along McNair Road that is required and vital for training and Operations Security (OPSEC) missions. The Proposed Action would enhance the community feel by opening courtyards to the pedestrian corridor and the building footprint and configuration would increase green areas and be better for sustainable design.

Construction of the proposed barracks and the parking lot would require demolition of seven existing Non-Commissioned Officer (NCO) duplexes, two residential garages, one swimming pool (abandoned/not operational), and one swimming pool house (abandoned/not operational). The existing seven NCO duplexes are family units that are in failed or poor condition, contain hazardous materials (lead-based paint and asbestos), and do not meet Army Standards or base programming needs.

Additionally, as stated above, the Proposed Action would involve the restoration of approximately two acres of natural habitat. This habitat restoration would support the proposed barracks Leadership in Energy and Environmental Design (LEED) Certification. The field area targeted for habitat restoration would be planted with native vegetation, including trees, shrubs, and grasses. The habitat restoration would also include a porous asphalt trail lined with benches connecting the proposed restoration area to the existing trail along McNair Road. An additional area of approximately 0.25-acres would be needed for the habitat restoration staging and would experience temporary construction impacts. All construction lay-down areas will comply with the Virginia Stormwater Management Program.

Alternatives Evaluated: An Environmental Assessment (EA) was prepared to evaluate the potential impacts on the human and natural environment associated with implementation of the Proposed Action. The Proposed Action includes the construction of two equal size, new military construction UEPH barracks buildings and the restoration of approximately two acres of existing grass and scattered tree landscape to natural habitat.

Eight other alternatives were considered but eliminated because they have the potential for significant impacts on historical resources and/or they do not meet the purpose or need, the installation's building requirements, and/or the Department of Defense requirements related to training and OPSEC.

As required, a No-Action Alternative was also included in the EA which reflects the status quo and serves as a benchmark against which federal actions can be evaluated. In this EA, the No-Action Alternative assumes the two UEPH barracks would not be built. JBM-HH would continue to lack sufficient housing to support active-duty military and would continue to use existing barracks that are in failed or failing condition and do not meet Army Standards. Because the habitat restoration would also not be completed, visitors and residents of JBM-HH would not benefit from the improved habitat and recreational opportunities generated by the proposed habitat restoration. The No-Action Alternative would not be a sufficient resolution to the existing housing inadequacies.

Anticipated Impacts: Based on the analysis contained in the EA, implementation of the Proposed Action at the UEPH barracks location is anticipated to result in short- and long-term, negligible to minor, adverse impacts on topography, soils, stormwater, coastal zone, air quality, wildlife, noise, traffic, utilities, aesthetics/visual resources, and climate change; long-term, moderate, adverse impacts on vegetation; and long-term, negligible to minor, beneficial impacts on hazardous materials/waste management, traffic, utilities, and human health and safety.

At the habitat restoration area, there would be long-term, moderate, beneficial impacts on biological resources (vegetation, wildlife). However, long-term, minor, adverse impacts on vegetation are expected due to the proposed construction of the walking trail. In addition, short-term, negligible, adverse impacts are expected from construction and large equipment use during the restoration process.

Under the Proposed Action, there is also potential for cumulative impacts on topography, soils, coastal zone, stormwater, viewshed, utilities, air quality, climate change, and noise.

Implementation of the Proposed Action would result in no impacts on geology, surface water, groundwater, floodplains, wetlands, cultural resources, land use, or socioeconomic characteristics (including Environmental Justice and Protection of Children). The Proposed Action would comply with all applicable federal, state, and local regulations and permit requirements.

Implementation of the No-Action Alternative is expected to have no impacts on all of the above-listed resource areas except hazardous materials/waste management and traffic. Long-term, negligible to minor, adverse impacts are expected to occur on hazardous materials/waste management and traffic if the No-Action Alternative is implemented.

No potential cumulative impacts would occur under the No-Action Alternative.

Public Involvement: Agency consultation letters were sent to interested parties on 23 November 2022 to initiate the EA process.

A Notice of Availability (NOA) was released on September 27, 2023 to appropriate local, state, and federal agencies announcing the availability of the Draft EA/Draft Finding of No Significant Impact (FNSI) for review and requesting comments from the public and federal, state, and local agencies. The NOA was published in *The Washington Post* on September 27, 2023, *Springfield Connection* on September 27, 2023, *Mount Vernon Gazette* on September 28, 2023, and *Arlington Connection* on September 27, 2023. The Draft EA/Draft FNSI were made available for a 30-day review period, beginning on September 27, 2023. The Draft EA and Draft FNSI were available to the public online at https://home.army.mil/jbmhh/teamJBMHH/about/Base/environmental-management-division; hard copies of both documents were also available for review at the Arlington Central Library and the Southwest Library (DC Public Library, Southwest Branch). At the end of the 30-day public review period, all comments received on the Draft EA/Draft FNSI were considered in the Final EA/Final FNSI.

Finding of No Significant Impact: After a review of the Draft EA, I have determined that the Proposed Action evaluated may be selected for implementation. I have concluded that implementation of the Proposed Action will have no significant impacts to the natural environment, cultural resources, or human environment. Based upon the aforementioned, preparation of an Environmental Impact Statement is not required.

_____
Date

_____
Tasha N. Lowery
Colonel, U.S. Army
Commanding

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Acronyms and Abbreviations

ACAT	Army Climate Assessment Tool
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
ACS-IP	Army Climate Strategy Implementation Plan
ADT	Average Daily Traffic
AFI	Air Force Instruction
AIRFA	American Indian Religious Freedom Act
ANC	Arlington National Cemetery
APAH	Arlington Partnership for Affordable Housing
AQCR	Air Quality Control Region
ARPA	Archaeological Resources Protection Act
ATFP	Anti-terrorism Force Protection
BDR	Building Disposition Report
BG	Block Group
BMP	Best Management Practice
CAA	Clean Air Act
CAS RN	Chemical Abstract Service Registry Number
CDC	Child Development Center
CEQ	Council on Environmental Quality
CEJST	Climate and Economic Justice Screening Tool
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFA	Commission of Fine Arts
CFR	Code of Federal Regulations
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
COA	Course of Action
CRM	Coastal Resource Management
CT	Census Tract
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Plan
CWA	Clean Water Act
DA	Department of the Army
dB	Decibels
dBA	"A-Weighted" decibels
DBH	Diameter at Breast Height
DFAC	Dining Facilities Administration Center
DoD	Department of Defense
DoDI	Department of Defense Instruction
DOT	Department of Transportation
DPW	Department of Public Works
EA	Environmental Assessment
EIS	Environmental Impact Statement

EISA	Energy Independence and Security Act
EJ	Environmental Justice
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FNSI	Finding of No Significant Impact
FY	Fiscal Year
GCR	General Conformity Rule
GHG	Greenhouse Gas
GWP	Global Warming Potential
HAP	Hazardous Air Pollutant
HAZMAT	Hazardous Materials
HVAC	Heating, Ventilation and Air conditioning
IPaC	Information for Planning and Consultation
IPM	Integrated Pest Management
IPMP	Integrated Pest Management Plan
JBM-HH	Joint Base Myer-Henderson Hall
LEED	Leadership in Energy and Environmental Design
LOE	Line of Effort
mgd	Million Gallons Per Day
MILCON	Military Construction
MOA	Memorandum of Agreement
µg/m3	micrograms per cubic meter of air
MSL	Mean Sea Level
MWAQC	Metropolitan Washington Air Quality Committee
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NASA	National Aeronautics Space Administration
NCO	Non-Commissioned Officer
NCPC	National Capital Planning Commission
NCR	National Capital Region
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NLEB	Northern Long-eared Bat
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NOA	Notice of Availability
NOI	Notice of Intent
NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System

NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	Ozone
OPSEC	Operations Security
OSHA	Occupational Safety and Health Administration
OTR	Ozone Transport Region
Pb	Lead
PM	Particulate Matter
ppb	parts per billion
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
RONA	Record of Non-Applicability
SC-GHG	Social Cost of Greenhouse Gas
SIP	State Implementation Plan
SHPO	State Historic Preservation Office
SO_2	Sulfur Dioxide
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TOG	The Old Guard (3rd U.S. Infantry Regiment)
TOYR	Time-of-year Restriction
TSCA	Toxic Substances Control Act
UEPH	Unaccompanied Enlisted Personnel Housing
U.S.	United States
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USMC	U.S. Marine Corps
VAC	Virginia Administrative Code
VDEQ	Virginia Department of Environmental Quality
VOC	Volatile Organic Compound
VRRM	Virginia Runoff Reduction Method
VSMP	Virginia Stormwater Management Program
WOTUS	Waters of the United States

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1 INTRODUCTION

1.1 Background Information

Joint Base Myer-Henderson Hall (JBM-HH) includes Fort Myer, Henderson Hall, and Fort McNair, all located within the Washington, D.C., Metropolitan Area. Fort Myer and Henderson Hall are adjacent Installations located in Arlington, Virginia, directly across the Potomac River from Washington, D.C. Fort McNair is located in Southwest Washington, D.C. at the confluence of the Washington Channel of the Potomac River and the Anacostia River (**Figure 1**). The Army Installation Fort Myer encompasses 243 acres between Arlington Boulevard / United States (U.S.) Route 50, Washington Boulevard / State Route 27 and Arlington National Cemetery (ANC) in Arlington, Virginia.

Fort Myer carries out Installation management responsibilities and integrates some functions and services between Fort Myer, Henderson Hall, and Fort McNair, including security; anti-terrorism force protection (ATFP); utilities; parking; circulation and access control points; housing; and recreation, to provide more efficient support of the on-Installation and regional populations. The missions of Fort Myer include responding to crises, disasters, or security requirements in the National Capital Region (NCR) through implementation of various contingency plans; providing both base operations and a variety of specialized support to Army and other Department of Defense (DoD) organizations throughout the NCR; and conducting official national and international ceremonial, musical, and special events. Fort Myer serves as headquarters for service personnel working throughout the NCR. Fort Myer is home to the 3rd U.S. Infantry Regiment (The Old Guard), the U.S. Army Band "Pershing's Own," and Headquarters U.S. Army Garrison. The Old Guard provides ceremonial duties at ANC and security for the nation's capital as a first response infantry unit.

Although improvements have been made over time, many of the amenities on Fort Myer do not meet current-day standards for housing, pedestrian and bicycle circulation, parking, vehicular and transit access, infrastructure and utilities, landscaping, and security.

Figure 1. JBM-HH Vicinity Map

1.2 Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to provide additional, updated housing for Fort Myer through the construction of Unaccompanied Enlisted Personnel Housing (UEPH) to include living quarter suites with 200 bedrooms. Currently, existing historic barracks, Buildings 250 and 251, are in failed and failing condition, are insufficient to support active-duty military, and do not meet Army Standards. Combined, the two barracks provide approximately 75 service member beds. Fort Myer has a current deficit of 200 beds needed for personnel. The need for the Proposed Action is to provide barracks that meet the Army's Standard for building design to eliminate the deficit and provide quality housing to service members of The Old Guard. The consolidated housing on the Installation would support a more cohesive Army unit for training, mission readiness, and mobilization. Additionally, many of the personnel that would move into these barracks are currently housed off-base, competing for space within the local housing market.

1.3 Scope of the Environmental Assessment

The purpose of this Environmental Assessment (EA) is to evaluate the direct, indirect and cumulative impacts associated with the construction of the UEPH barracks at Fort Myer in accordance with the National Environmental Policy Act (NEPA). In this EA, Fort Myer refers to the project area at Fort Myer. The project area for the construction of the UEPH barracks is approximately six acres and is bound by McNair Road to the east and Sheridan Avenue to the west. The Proposed Action also includes a field targeted for habitat restoration, which is approximately two acres in size and located about 1,600 feet northeast from the UEPH barracks project area (**Figure 2**). Both the proposed UEPH barracks and the habitat restoration project areas are located entirely within the Fort Myer area of JBM-HH.

This document identifies and evaluates the potential impacts on the human and natural environment associated with implementation of the Proposed Action and the No-Action Alternative. This EA also describes the existing conditions of the human and natural environment that could potentially be impacted by the Proposed Action and the No-Action Alternative.

The EA focuses on impacts likely to occur within the proposed project areas. Compliance with applicable federal statutes, standards, and directives pertinent to the Proposed Action were considered during the preparation of this EA.

Under the guidance provided in NEPA and in 32 Code of Federal Regulations (CFR) Part 651, either an Environmental Impact Statement (EIS) or an EA must be prepared for any federal action. Actions that are determined to be exempt by law, emergencies, or are categorically excluded do not require the preparation of an EA or EIS. If an action may significantly affect the environment, an EIS would be prepared. An EA provides sufficient evidence and analysis for determining whether or not to prepare an EIS. The contents of an EA include the need for the Proposed Action, alternatives to the Proposed Action, environmental impacts of the Proposed Action and alternatives considered for implementation, and documentation of agency coordination.

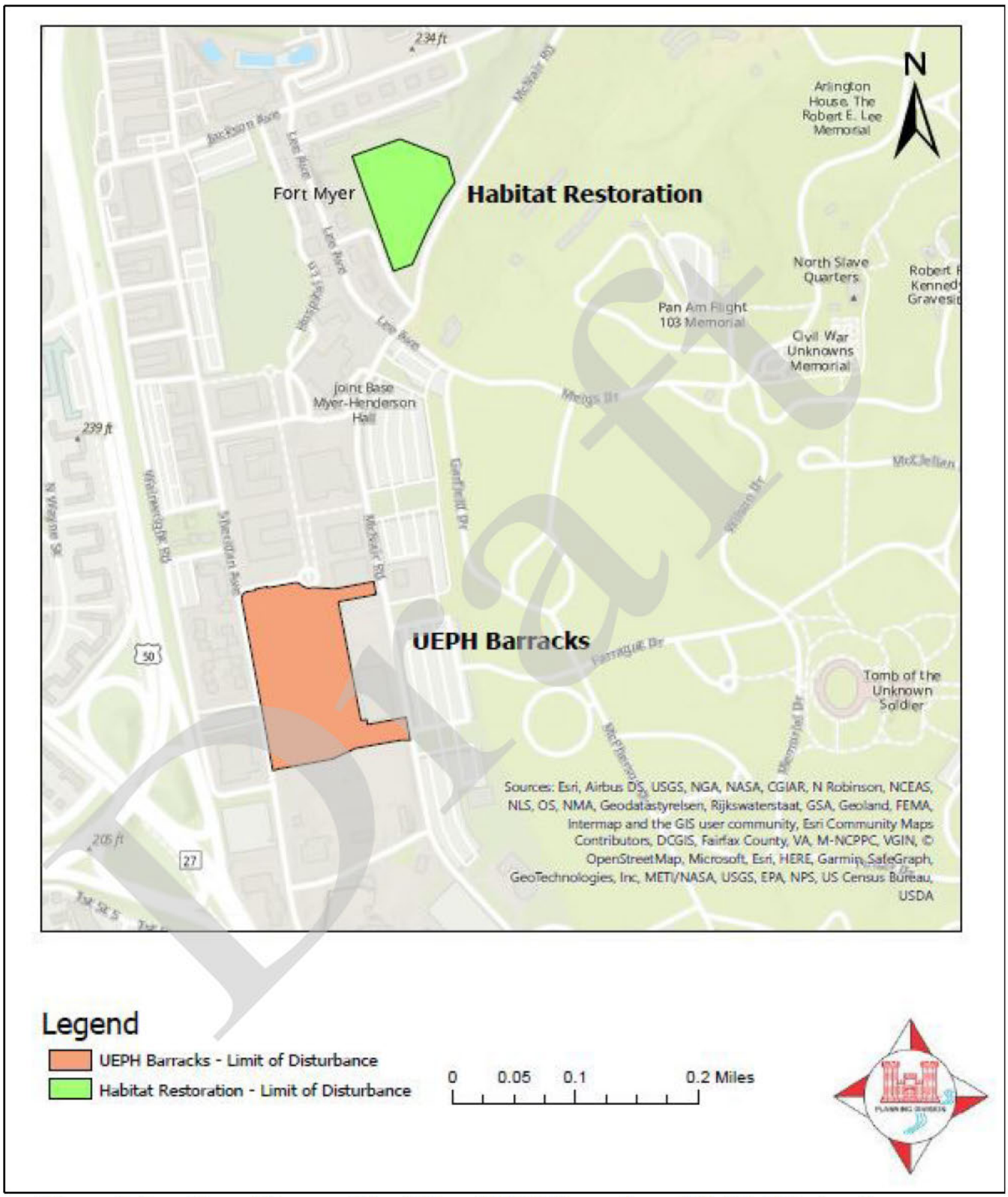

Figure 2. Location of Proposed Fort Myer UEPH Barracks and Habitat Restoration Project Areas

An evaluation of the environmental consequences of the Proposed Action and the No-Action Alternative includes direct, indirect, and cumulative effects, as well as a qualitative and quantitative (where possible) assessment of the level of significance of these effects. The EA results in either a Finding of No Significant Impact (FNSI) or a Notice of Intent (NOI) to prepare an EIS. If Fort Myer determines that this Proposed Action may have a significant impact on the quality of the human environment, an EIS will be prepared.

1.4 Environmental Laws and Regulations

NEPA requires all federal agencies consider potential environmental effects of proposed major actions in planning and decision-making. The Council on Environmental Quality (CEQ) is responsible for issuing regulations (40 CFR 1500-1508) implementing the provisions of NEPA. CEQ regulations in turn are supplemented by procedures adopted on an agency-specific basis. For the Department of the Army (DA), the pertinent regulations are contained in 32 CFR Part 650, *Environmental Protection and Enhancement*, and 32 CFR Part 651, *Environmental Analysis of Army Actions*. This EA was developed pursuant to these laws and regulations.

Laws and regulations that apply to the Proposed Action include the Clean Air Act (CAA); Clean Water Act (CWA); Noise Control Act; Endangered Species Act (ESA); Bald and Golden Eagle Protection Act; Migratory Bird Treaty Act; National Historic Preservation Act (NHPA); Archaeological Resources Protection Act (ARPA); Resource Conservation and Recovery Act (RCRA); and Section 438 of the Energy Independence and Security Act (42 United States Code Ch. 152 §17001 *et seq.*). Executive Orders (EO) that may apply to the Proposed Action include *Protection and Enhancement of the Cultural Environment* (EO 11593); *Floodplain Management* (EO 11988); *Protection of Wetlands* (EO 11990); *Environmental Justice in Minority Populations and Low-Income Populations* (EO 12898); *Revitalizing Our Nation's Commitment to Environmental Justice for All* (EO 14096); *Federal Compliance with Pollution Control Standards* (EO 12088); *Invasive Species* (EO 13112); *Consultation and Coordination with Indian Tribal Governments* (EO 13175); and *Chesapeake Bay Protection and Restoration* (EO 13508). Note that this list is not all-inclusive and other federal, state, and local laws and regulations may apply.

1.5 Public Involvement

Federal agencies, federally recognized Native American tribes, state agencies, and local agencies were requested to contribute to this EA through an Intergovernmental Coordination process, which assisted the Army in determining the appropriate scope for this EA. Consideration of the views and information from all interested persons promotes open communication and enables better decision-making by the Army. All persons and organizations having potential interest in the Army's Proposed Action, including low-income and disadvantaged public and federally recognized Native American tribes, are urged to participate in the NEPA environmental analysis process.

Agency coordination with the appropriate federal, state, and local agencies was initiated on 23 November 2022. The agencies include (but are not limited to) Architectural Review Agencies such as the ANC, Advisory Council on Historic Preservation (ACHP), Commission of Fine Arts (CFA), and the National Capital Planning Commission (NCPC). On 23 November 2022, JBM-HH also

invited the following federally recognized Tribes to consult on this undertaking: Catawba Indian Nation, Eastern Band of Cherokee Indians, The Delaware Tribe of Indians, Delaware Nation, Cherokee Nation, Chickahominy Indian Tribe, Chickahominy Indian Tribe – Eastern Division, United Keetoowah Band of Cherokee Indians, Mattaponi Indian Nation, Upper Mattaponi Tribe, Monacan Indian Nation, Nansemond Indian Nation, Pamunkey Indian Tribe, Rappahannock Tribe, and Tuscarora Nation. All correspondence to agencies and federally recognized Tribes is included in **Appendix A** and incorporated into this EA.

1.6 Public Review

A Public Notice and Notice of Availability (NOA) was released on September 27, 2023 to appropriate local, state, and federal agencies. The NOA has also been published in *The Washington Post* on September 27, 2023, *Springfield Connection* on September 27, 2023, *Mount Vernon Gazette* on September 28, 2023, and *Arlington Connection* on September 27, 2023. The Public Notice and NOA announced the availability of the Draft EA for review and requested comments from the public and federal, state, and local agencies. The Draft EA was made available for a 30-day review period, beginning on September 27, 2023. At the end of the 30-day public review period, all comments received on the Proposed Action and analysis will be considered in the Final EA.

The Draft EA is available to view in printed form at the Arlington Central Public Library (1015 N Quincy St, Arlington VA 22201) and the D.C. Southwest Library (900 Wesley Pl SW, Washington, DC 20024) or it can be viewed/downloaded electronically at https://home.army.mil/jbmhh/teamJBMHH/about/Base/environmental-management-division website. All questions and comments on the Draft EA may be directed in writing to: Directorate of Public Works - Environmental Division, 111 Stewart Road, Building 321, Fort Myer, VA 22211 or by email to: JBMHH_NEPA@usace.army.mil. Comments must be received no later than 30 days after publication of this NOA.

2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action and alternatives to the Proposed Action. In accordance with CEQ guidance in 40 CFR 1502.14, the purpose of this chapter is to sharply define the differences between the alternatives.

2.1 Alternatives Considered

2.1.1 Alternative #1 – Concept UU (Proposed Action)

Alternative #1 or "Concept UU" is the Proposed Action and involves the construction of two equal size, new military construction UEPH barracks buildings (**Figure 3**) and the restoration of approximately two acres of existing grass and scattered tree landscape to natural habitat. The buildings would be located along Sheridan Avenue, parallel to each other. The Proposed Action would also involve the construction of a parking lot with capacity for 65 vehicles. The proposed parking lot would be located adjacent to and south of the southernmost end of the newly constructed barracks buildings. Additionally, the Proposed Action would include the realignment of Schoolhouse Road; extension of the pedestrian corridor along the eastern edge of the new barracks from the current end point at the circle north of the proposed barracks buildings to Schoolhouse Road; construction of new access roads, fire lanes, equipment pads, and walkways; new utilities; and landscaping.

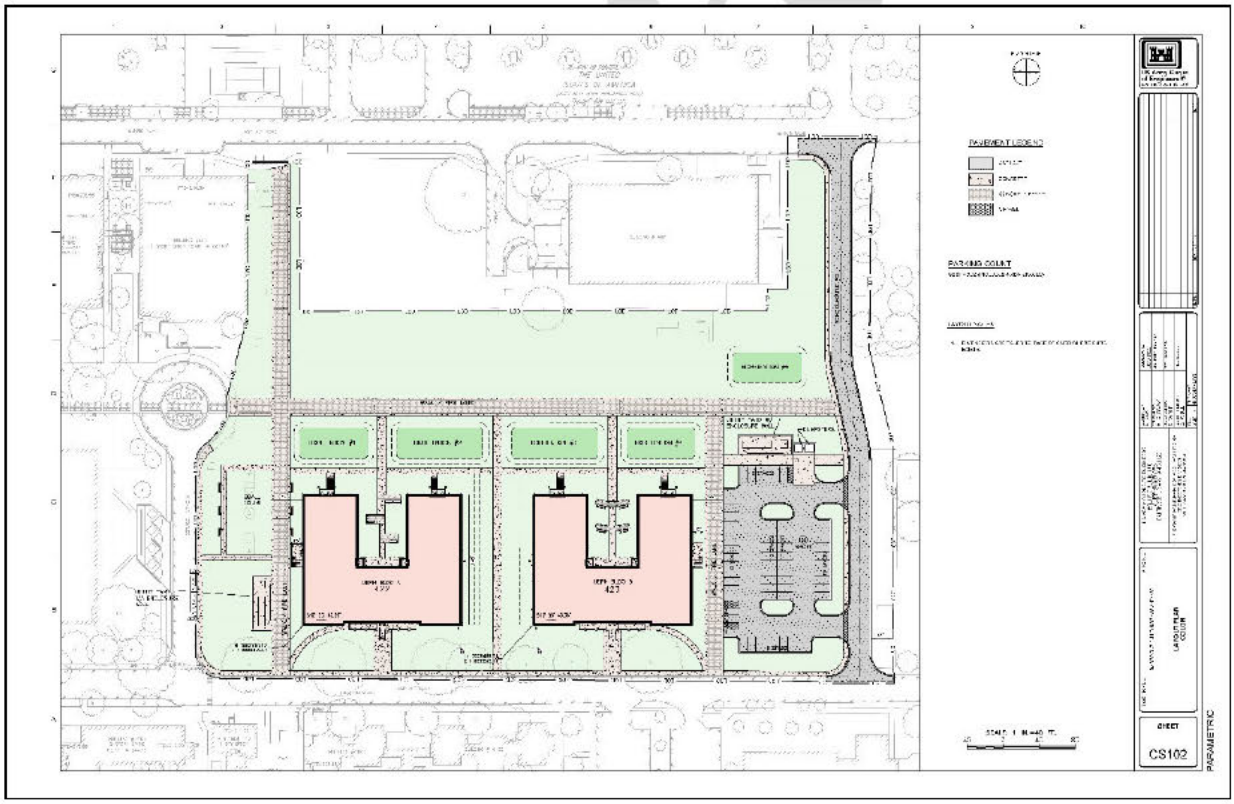

Figure 3. Proposed Barracks and Parking Lot Concept Layout

The proposed barracks buildings would both be "U" shaped, with courtyard areas in the middle. The UEPH barracks would not block the existing pedestrian corridor that runs between McNair Road and Sheridan Avenue and would also maintain a 0.75-acre open field area east of the new barracks buildings along McNair Road that is required and vital for training and Operations Security (OPSEC) missions. The Proposed Action would enhance the community feel by opening courtyards to the pedestrian corridor and the smaller building footprint would increase green areas and be better for sustainable design.

The proposed barracks would contain 200 beds (total) and would be designed using UEPH standards. Both 2/1 market-style dwelling units with two private bedrooms sharing one bathroom and 4/2 dwelling units with four private bedrooms sharing two bathrooms would be utilized. The proposed barracks would include:

- Living/sleeping rooms;
- Semi-private bathrooms;
- Walk-in closets;
- Storage;
- Laundry facilities;
- Service areas;
- Entrance lobby with visitor waiting area;
- Dayroom, including lounge and gaming areas;
- Fitness room; and
- Supporting infrastructure (utilities, electric service, exterior lighting, fire protection and alarm systems, paving, walks, curbs and gutters, sedimentation and erosion control, storm drainage, stormwater management, picnic area, bicycle racks, dumpster pads and enclosures, information systems, and parking).

Construction of the proposed barracks buildings and the parking lot would require demolition of seven existing Non-Commissioned Officer (NCO) duplexes, two residential garages, one swimming pool (abandoned/not operational), and one swimming pool house (abandoned/not operational). The existing seven duplexes are family units that are in failed or poor condition, contain hazardous materials (lead-based paint and asbestos), and do not meet Army Standards or base programming needs.

Additionally, the Proposed Action would involve the restoration of approximately two acres of natural habitat to support the proposed barracks Leadership in Energy and Environmental Design (LEED) Certification. The field area targeted for habitat restoration would be planted with native vegetation including trees, shrubs, and grasses. The habitat restoration would also include a porous asphalt trail lined with benches connecting the proposed habitat restoration area to the existing trail along McNair Road. An additional area of approximately 0.25 acres would be needed for staging and would experience temporary construction impacts.

The Proposed Action is the preferred alternative.

2.1.2 No-Action Alternative

Under the No-Action Alternative, the Proposed Action would not be implemented. Fort Myer would continue to lack sufficient housing to support active-duty military and would continue to use existing barracks that are in failed or failing condition and do not meet Army Standards. Because the habitat restoration would not be completed, visitors and residents of Fort Myer would not benefit from the improved habitat and recreational opportunities generated by the proposed habitat restoration.

2.2 Alternatives Eliminated from Detailed Study

As required by NEPA, potential alternatives must be considered. Alternatives to be evaluated must be economically feasible, able to be implemented, and meet the purpose and need for the Proposed Action. The alternatives below were considered but eliminated from further consideration because they did not meet the criteria needed to be evaluated.

2.2.1 Course of Action 1 and Course of Action 2

During initial planning charettes, alternatives involving the existing Fort Myer barracks (buildings 250 and 251) were considered. Course of Action (COA) 1 would involve the demolition of buildings 250 and 251 and the construction of a new 225 bed barracks complex in their footprint. Buildings 250 and 251 are contributing resources to the Fort Myer Historic District, which is a National Historic Landmark (NHL). Therefore, COA 1 would result in potential significant impacts on historic resources. COA 2 would involve the construction of wings to expand buildings 250 and 251. This alternative would not provide the number of bed spaces required; thereby, not meeting the purpose and need for the Proposed Action. Due to the potential for significant impacts on historical resources and not meeting the purpose and need, both COA 1 and COA 2 were eliminated from further consideration.

2.2.2 Concept V

Concept V would involve the construction of two equal size, "U" shaped barracks buildings, one located along Sheridan Avenue and the other along McNair Road (**Figure 4**). The barracks buildings would contain courtyard areas in the middle of each building. The courtyard areas would face each other and the pedestrian corridor, which would run between the two buildings. Concept V would not include the construction of a parking lot. Concept V would require the demolition of at least three existing duplexes and two residential garages. Concept V would not allow for the maintenance of the open field area along McNair Road (required for training and OPSEC missions) because one of the barracks buildings would be constructed in this field area. Therefore, this alternative would not be able to be implemented and was eliminated from further consideration.

Similar to Concept V, the alternatives listed in **Table 1** below, were initially considered and removed for further evaluation. These alternatives would not be able to be implemented since they would either reduce or not maintain the required open field area along McNair Road.

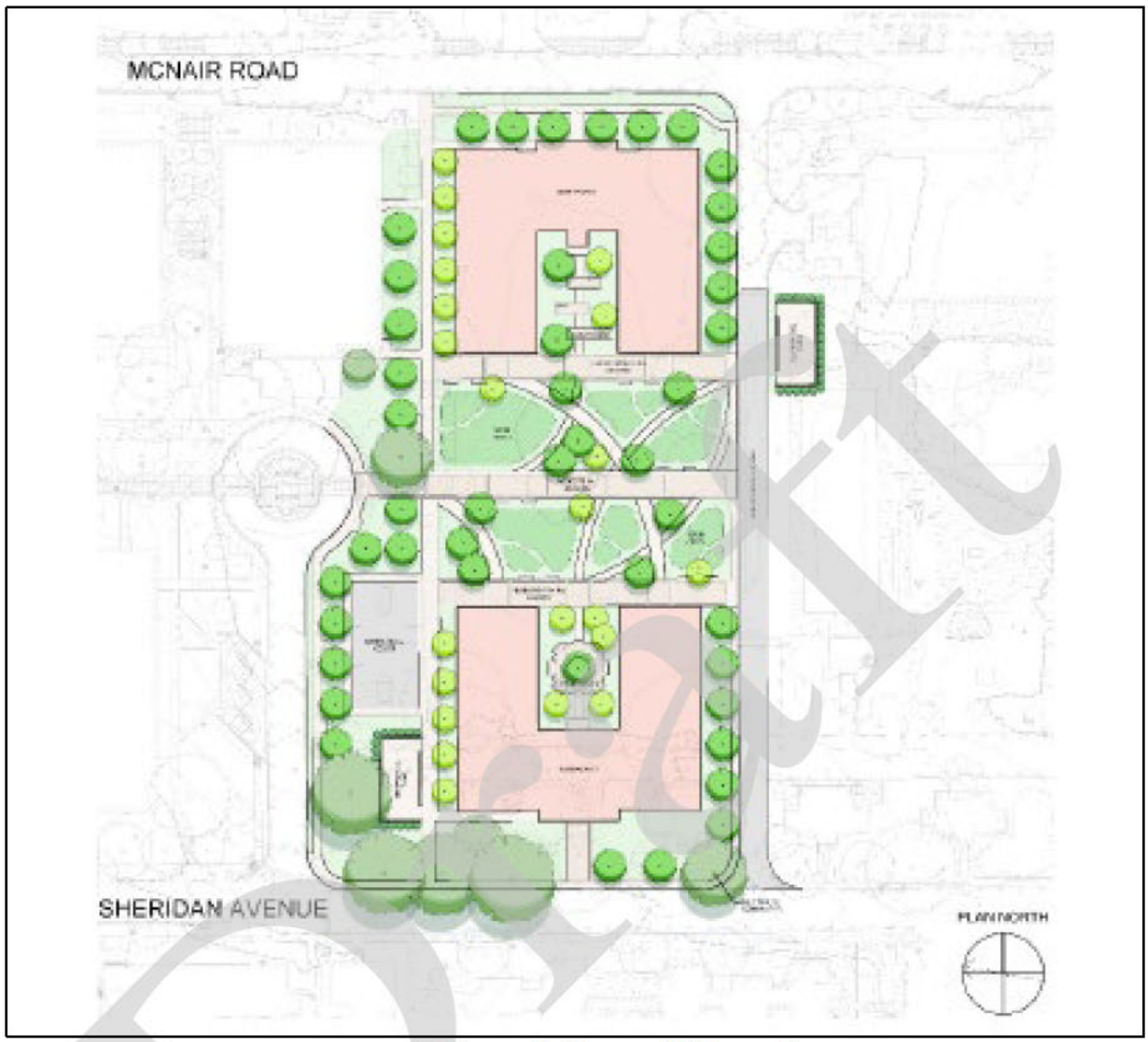

Figure 4. Concept V Layout.

Table 1. Other Alternatives Eliminated from Detailed Study

Alternative	Description	Criteria Not Met
Concept J	Construction of a "U" shaped barracks building with one elongated wing.	Not implementable because it reduces the size of the open field area along McNair Road that is vital for trainings and OPSEC missions.
Concept O	Construction of "O" shaped barracks building with an enclosed courtyard.	Not implementable because it reduces the size of the open field area along McNair Road that is vital for trainings and OPSEC missions.
Concept U	Construction of single, "U" shaped barracks building, with elongated wings.	Not implementable because construction of a deep and narrow courtyard is not preferred for energy conservation or pedestrian circulation. It does not meet the Installation's 3:1 building ratio requirement.
Concept X	Construction of two different size barracks buildings, which would use the entire site between Sheridan Avenue and McNair Road.	Not implementable because it reduces the size of the open field area along McNair Road that is vital for trainings and OPSEC missions.
Concept Y and Z	Construction of two different size barracks buildings with the larger sized building along McNair Road, which would keep three existing houses along Sheridan Ave.	Not implementable because it reduces the size of the open field area along McNair Road that is vital for trainings and OPSEC missions.

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3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Chapter 3 describes existing resources at Fort Myer that may be affected by the Proposed Action and the No-Action Alternative.

Mitigation measures for potentially adverse impacts on the environment due to the Proposed Action and No-Action Alternative have been developed and specified that would minimize impacts, if implemented. Mitigation measures are described within each resource area, as appropriate, within this chapter.

3.1 TOPOGRAPHY, SOILS, AND GEOLOGY

Fort Myer is located in Arlington County and lies within the Mid-Atlantic Coastal Plain, which is comprised of a wedge of sediments that rest on eroded Precambrian to early Mesozoic rock increasing in thickness from west to east. The sediments are comprised of sands, silts, and clays (JBM-HH, 2018).

3.1.1 Topography

The topographic relief at Fort Myer/Henderson Hall is moderate with elevations ranging from 55 feet above mean sea level (MSL) to 235 feet above MSL. The majority of Fort Myer is flat, except the northeast corner which has substantial slopes. The slopes in the northern portion of the Installation constrain development and are at-risk of erosion if the area is improperly managed. In the Henderson Hall portion of the Installation, the topography ranges from 134 to 170 feet above MSL. The proposed UEPH barracks location is flat; however, steep slopes are present in the proposed habitat restoration area (**Figure 5**) (JBM-HH, 2022).

3.1.2 Soils

Soil characteristics within Fort Myer are described as Coastal Plain sediments consisting of unconsolidated clays, silts, and sands that are underlain by depositional sand and gravel. Soils are moderately well drained, but it is not unusual to find seasonal wet areas in low-lying sections. Elevations range from 55 feet at Wright Gate on Arlington Ridge Road to 235 feet on the parade grounds. Moderate slopes, which can pose an erosion risk if not properly managed, characterize the northern and northeastern portions of the Installation. This soil type is considered moderately well-drained and not prime farmland. The Arlington County Soil Survey classified soils within Fort Myer, including the project areas, as Urban land-Udorthents complex, with 2 to 15 percent slopes (JBM-HH, 2018). Urban land typically refers to areas covered by impervious materials. Udorthents are well drained to excessively drained, loamy and clay soils (JBM-HH, 2018). This area has 2 percent to 15 percent slopes throughout the topography of both project areas (**Figure 6**) (Natural Resources Conservation Service [NRCS], 2023).

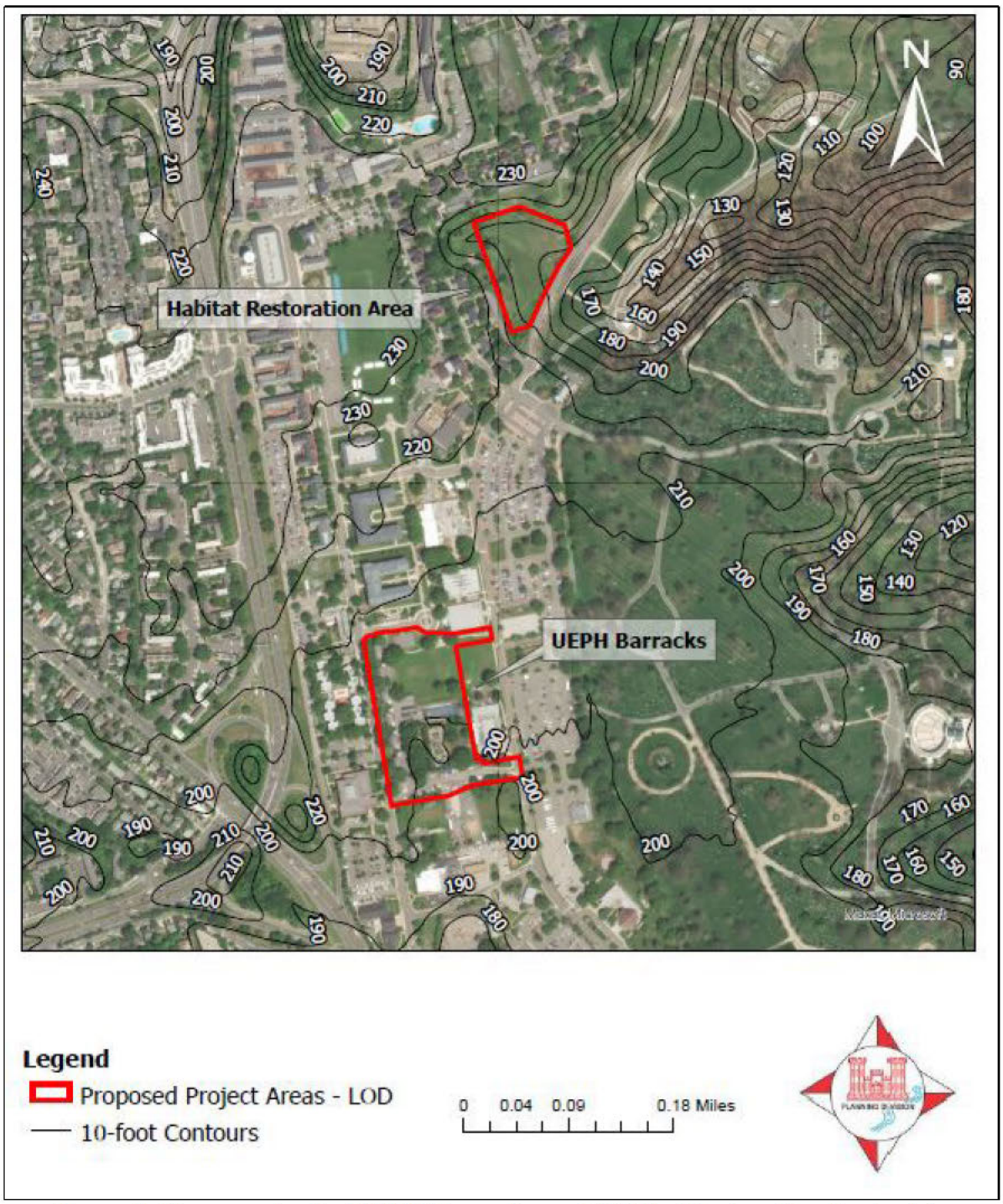

Figure 5. Topography for UEPH Barracks and Habitat Restoration Project Areas

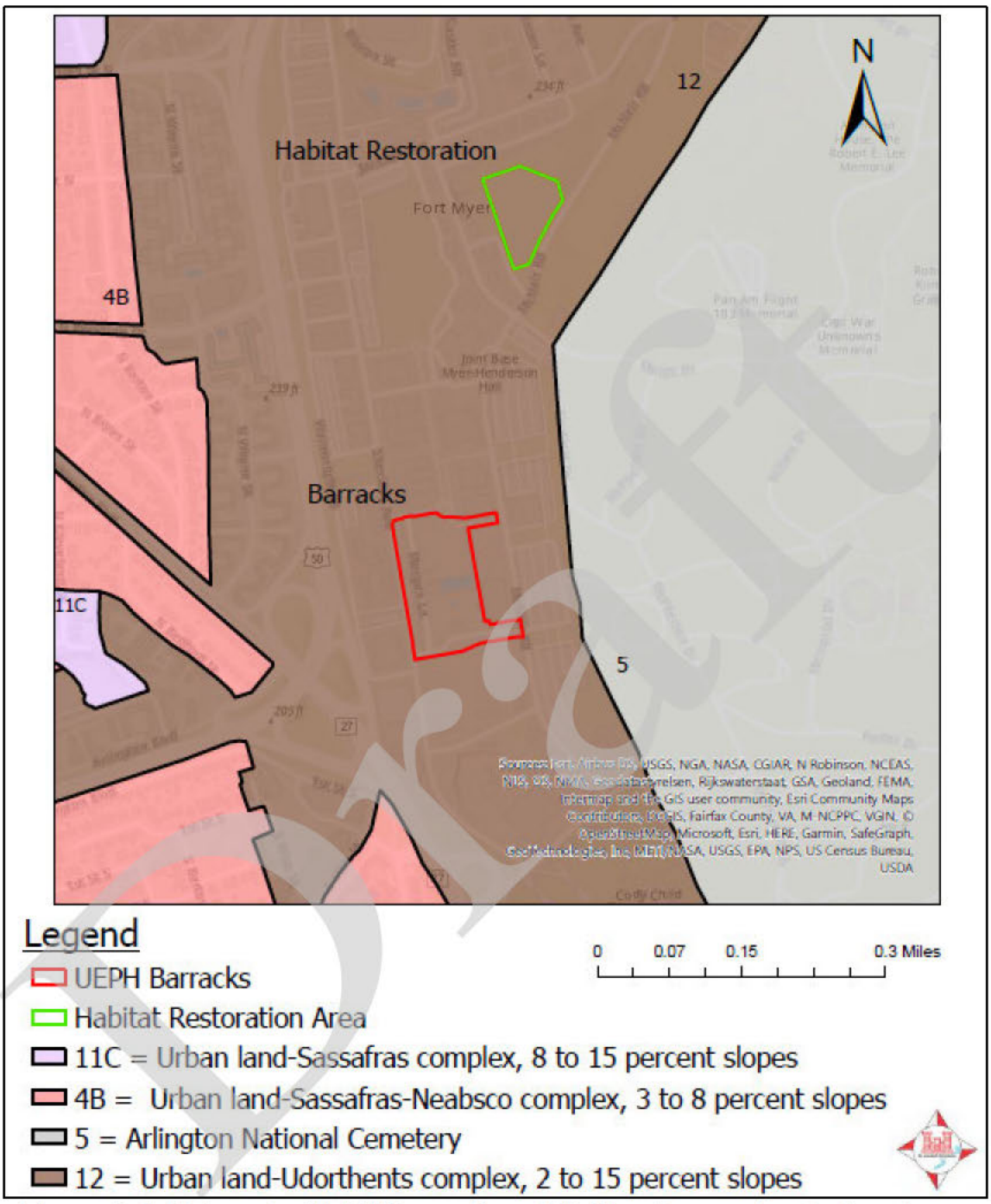

Figure 6. Soil Types for UEPH Barracks and Habitat Restoration Project Areas

3.1.3 Geology

The proposed UEPH barracks and habitat restoration project areas are both situated within the geologic time-period of Late Pliocene, with the rock type being Sedimentary and formation of Upland Terrace Deposits. This is described as crudely bedded sand, gravel, silt, and clay. The clay is a reddish-orange color in the upper portion of the soil profile. The gravel and sand are noted to be coarse with the silt and clay being interstitial (occupying small spaces/pores) and placed post-depositionally. This composition is recognized by brightly colored weathering profiles (ESRI, ND).

3.1.4 Environmental Consequences of the Alternatives on Topography, Soils, and Geology

The majority of the area comprising Fort Myer has been developed. Construction activities have occurred throughout the history of the Installation, resulting in alterations to the original topography, excavated geology, and disturbed soils.

3.1.4.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on topography, soils, and geology impacts if it:

- Causes a substantial loss of soils, or compaction to the extent that makes it impossible to establish native vegetation within two growing seasons;
- Disturbs a land area larger than 1,000 acres;
- Causes a permanent loss of soil productivity that results from converting pervious soils into impervious ground on more than 5 percent of Installation land;
- Results in topography that does not substantially comply with the overall topography of adjacent land; or,
- Removes or alters soils and causes structural instability to surrounding buildings or infrastructure.

3.1.4.2 Proposed Action

At the UEPH barracks location, no impacts to geology and topography are anticipated, as grading would not be significant enough to change the topography and geology. Adverse, negligible, long-term impacts would be expected to soils due to grading, construction activities, and the staging/use of heavy equipment.

At the habitat restoration area, no impacts to geology are anticipated under the Proposed Action. Adverse, negligible, long-term impacts may occur to topography at the habitat restoration area, due to minimal grading that would be necessary for the proposed walking path. Adverse, negligible, long-term impacts would be expected to soils due to grading for the proposed sidewalk, staging of equipment, and any tree/shrub removal or planting.

3.1.4.3 No-Action Alternative

Under the No-Action Alternative, there would be no impacts on topography, soils, or geology because no demolition or construction activities would take place.

3.1.4.4 Minimization Measures

Projects would be initiated only after the environmental review has been completed and the required permits are obtained. Erosion and sediment control requirements would be in accordance with requirements set forth under the Virginia Erosion and Sediment Control Law and Regulations, the Virginia Stormwater Management Law, and the Virginia Stormwater Management Program in addition to the requirements set forth under the Arlington County Code. The Commonwealth of Virginia mandates erosion control techniques during and after construction and techniques apply, even if erodible soils are not present. Detailed Erosion and Sediment Control Plans and National Pollutant Discharge Elimination System (NPDES) permits for construction activities at Fort Myer would be required prior to any earth-moving activities. Typical stormwater best management practices (BMPs) include bioretention, sand filters, or certain proprietary devices.

3.2 WATER RESOURCES

Fort Myer is situated within the Middle Potomac River watershed. It is located within the Northern Atlantic Coastal Plain Aquifer System, Chesapeake, and Potomac River aquifer systems. The aquifer systems are both composed of sand and gravel, typical of the coastal plain region (JBM-HH, 2022).

3.2.1 Groundwater

The main water-bearing aquifers on Fort Myer are the Patuxent, Patapsco and Magothy, which have groundwater depths between 20 to 30 feet at varying locations on the Installation. Generally, the groundwater flow is toward the southeast and the Potomac River. Groundwater recharge occurs from precipitation in ridged areas, and in some other areas, from downward seepage through confining beds. Fort Myer does not use groundwater as a drinking water supply because municipally treated water from the Potomac River is supplied by the Arlington County water system (JBM-HH, 2022).

3.2.2 Surface Water

The Fort Myer portion of the Installation is positioned approximately one-half mile west of the Potomac River, measured from the northeastern portion of Fort Myer. At Fort Myer, an unnamed tributary travels along the southwestern boundary of Fort Myer, which drains into Long Branch Creek. A tributary, Four Mile Run, flows into the Potomac River, south of Ronald Reagan Washington National Airport (JBM-HH, 2022).

3.2.3 Stormwater

Stormwater is defined as rainwater that flows overland; accumulates in gutters, ditches, and culverts; and travels through storm drains to various discharge points. The stormwater drainage systems are managed primarily by a series of various inlets (combo, curb, and grate), pipe outlets, and manholes (**Figure 7**).

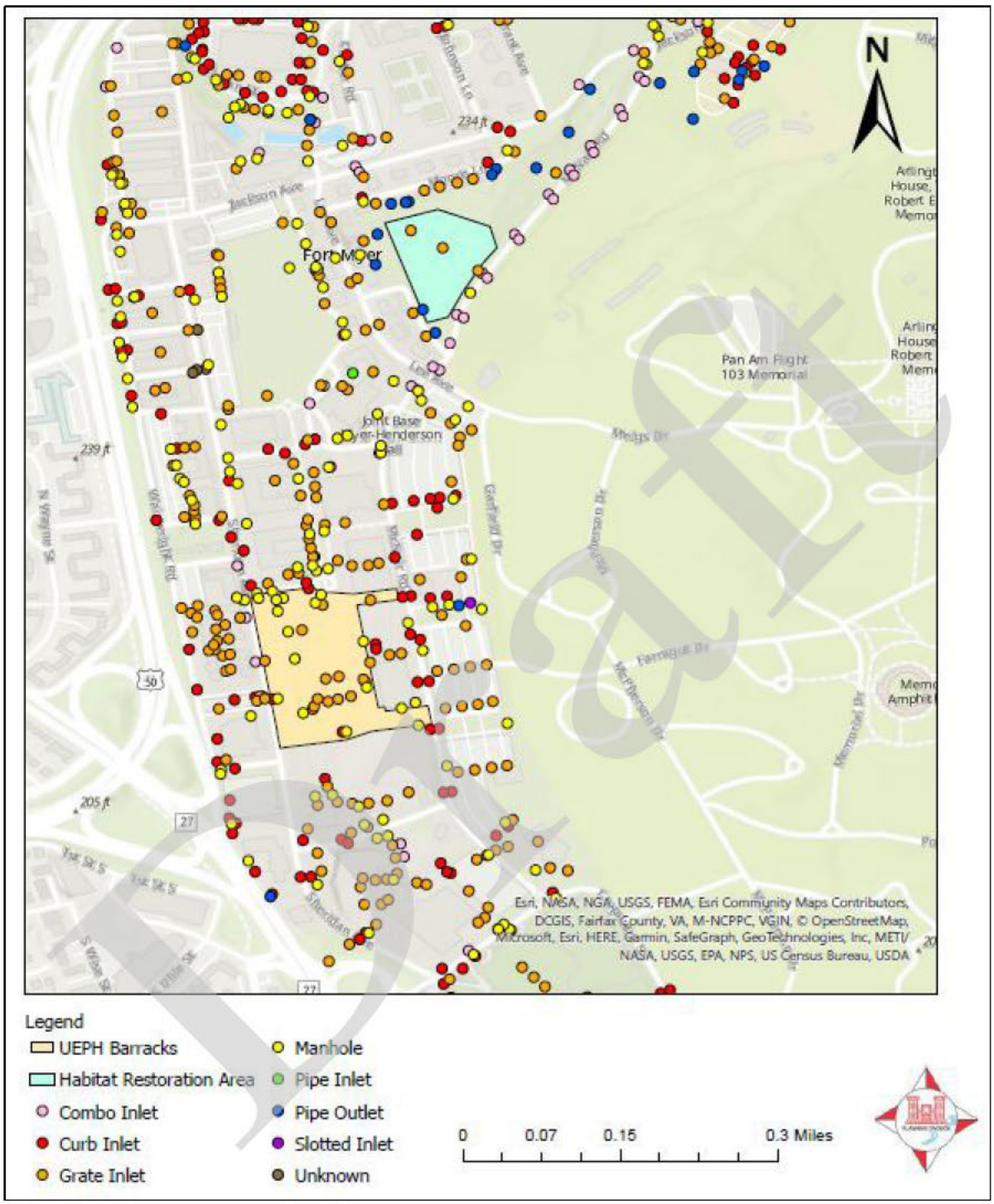

Figure 7. Stormwater Drainage System for UEPH Barracks and Habitat Restoration Project Areas

Provisions of Virginia Stormwater Management Program (VSMP), *Stormwater Management*, require that all jurisdictions in Virginia implement a stormwater management (SWM) program to control the quality and quantity of stormwater runoff resulting from new development. The primary goals of the state and local SWM programs are to maintain the pre-development runoff characteristics after development, to the extent possible, and to reduce stream channel erosion, pollution, siltation and sedimentation, and local flooding by implementing environmental site design to the maximum extent practicable and using appropriate structural BMPs only when necessary (City of Alexandria, 2022). A SWPPP would be developed further into the design and any associated permits would be obtained prior to construction.

3.2.4 Floodplains

EO 11988 directs federal agencies to avoid floodplains unless the agency determines there is no practical alternative to undertaking the action in a floodplain. If building in a floodplain is the only practical alternative, an eight-step process, detailed in the Federal Emergency Management Agency (FEMA) document *Further Advice on EO 11988 Floodplain Management*, dated 1987, should be followed.

The Installation is labeled as "Zone D" on the online FEMA flood mapper. Zone D is defined as areas that have possible, but undetermined flood hazards. The Installation has not been surveyed and mapped and therefore, the flood risk is uncertain (FEMA, 2022). Based on historical observation, there are no known flood risks within or adjacent to the proposed project area.

3.2.5 Wetlands

Waters of the United States (WOTUS) include all waters used, past or present, or susceptible to use, in interstate or foreign commerce, including tidal waters. They also include all interstate and intrastate waters, and tributaries to such waters, and wetlands adjacent to these waters as defined by 40 CFR 230.3, 2002. Wetlands are jointly defined by the U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted to life in saturated soil conditions" (40 CFR 230.3, 2002 and 33 CFR 328.3, 2002). USACE is responsible for implementing the Section 404 regulatory program, while the USEPA has final authority over the CWA.

Proposed development activities within WOTUS, including jurisdictional wetlands, are regulated under Section 404 of the CWA. Executive Order 11990, *Protection of Wetlands*, provides for the protection of wetlands from short- and long-term impacts associated with the destruction or modification of wetlands from the direct or indirect impacts of construction in wetlands, wherever there is a practicable alternative, and ensures that proposed construction incorporates all possible measures to limit harm to the wetland. The DoD policy is one of no net loss of wetlands. When avoidance of wetlands is not practical, off-site minimization measures may be used such as enhancement, creation, or restoration of streams elsewhere in the affected watershed (Department of Defense Instruction [DoDI], 2011).

Approximately 1.15 acres of wetlands have been identified in three isolated areas on JBM-HH. The largest wetland area is a palustrine forested wetland located in the southwest corner of the

Installation, which is approximately 1.05 acres in size. The two remaining wetlands equal approximately 0.1 acre and are located on the western boundary of the Installation (JBM-HH, 2022). There are no wetlands within or adjacent to the proposed UEPH barracks location or the habitat restoration area.

3.2.6 Coastal Zone

The Virginia Coastal Resources Management Program was established to protect and manage Virginia's "coastal zone," also referred to as "Tidewater Virginia." This program focuses on problems associated with polluted runoff, habitat protection, riparian buffers, Resource Protection Areas (RPAs), wetlands, fisheries, sustainable development, waterfront redevelopment and encroachment, septic systems, erosion and sediment control, and air pollution control (JBM-HH, 2018).

In response to the Coastal Zone Management Act (CZMA), Virginia formally established its Coastal Zone Management Plan (CZMP) in 1986 to protect the state's coastal zone through a network of state laws and policies. The CZMA requires that federal actions likely to affect any land or water use or natural resource within the coastal zone must be consistent to the maximum extent practicable with the state's CZMP. These actions must also go through a federal consistency review to determine the proper path forward if any natural resource would be impacted. A CZMA consistency was evaluated for all activities that have the potential to affect the Coastal Zone (**Appendix B)** (Virginia Department of Environmental Quality [VDEQ], 2023).

The coastal zone in Virginia extends from the inland boundaries of 29 counties, 17 cities, 42 incorporated towns to all of Virginia's Atlantic coast watershed, as well as portions of the Chesapeake Bay and the Albemarle-Pamlico Sound watersheds. Four tidal rivers reaching up to 100 miles inland are also included: the Potomac, Rappahannock, York, and James Rivers. The Virginia coastal zone extends seaward three miles into the Atlantic Ocean. Fort Myer is entirely within the coastal zone as designated by Virginia and, therefore, is subject to applicable regulations under the program (VDEQ, 2023).

3.2.7 Environmental Consequences of the Alternatives on Water Resources

3.2.7.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on water resources if it:

- Causes an exceedance of a Total Maximum Daily Load (TMDL);
- Causes a change in the impairment status of a surface water;
- Results in unpermitted direct impact on WOTUS;
- Exceeds safe annual yield of water supply sources;
- Reduces supply or availability to existing users;
- Threatens or damages unique hydrologic characteristics;
- Cause erosion and sedimentation that would violate water quality laws or the terms of an NPDES permit;
- Is not compliant with USEPA-approved water quality standards; or,
- Would not meet permit and minimization requirements for construction within coastal zones.

3.2.7.2 Proposed Action

Under the Proposed Action, there would be no impacts to groundwater, surface water, floodplains or wetlands. There would be adverse, negligible, long-term impacts to stormwater with increased impervious surfaces such as the construction of a new parking lot structure. The primary design criteria for SWM and erosion and sediment control design prescribed by the VDEQ includes the Virginia Runoff Reduction Method (VRRM) for water quality and the Virginia Code for water quantity. This design methodology would also allow the project to meet the Energy Independence and Security Act (EISA) Section 438, which is a federally mandated SWM requirement. In order to comply with the SWM requirements, the project would implement alternative surfaces and micro-scale BMP practices throughout the site to capture and treat stormwater runoff. In addition, the establishment of the native habitat restoration area will help with SWM.

The Proposed Action is located in a Chesapeake Bay Preservation Area and would disturb approximately eight acres in total for the entirety of the Proposed Action. The Proposed Action would be implemented and operated in a manner consistent with the Virginia Coastal Resources Management (CRM) Program and comply to the maximum extent practicable with the enforceable policies of the CRM. Overall, there would be adverse, negligible, long-term impacts to the coastal zone.

A Federal Consistency Determination under CZMA section 307(c)(1) and (2) and 15 CFR Part 930, subpart C, for the proposed construction of UEPH barracks and habitat restoration project areas was prepared and sent for review to the VDEQ for concurrence (**Appendix B**). This consistency determination represents an analysis of the Proposed Action regarding established Virginia CRM Program Enforceable Policies and Programs. Submission of the Consistency Determination reflects the commitment of Fort Myer to comply to the maximum extent practicable with those enforceable policies and programs.

3.2.7.3 No-Action Alternative

Under the No-Action Alternative, there would be no impacts to water resources because no demolition or construction activities would take place.

3.2.7.4 Minimization Measures

The primary design criteria for SWM and erosion and sediment control design prescribed by the VDEQ includes the VRRM for water quality and the Virginia Code for water quantity. This design methodology would also allow the project to meet the EISA Section 438, which is a federally mandated SWM requirement. In order to comply with the stormwater management requirements as referenced above, the Army would implement alternative surfaces and micro-scale BMP practices throughout the site to capture and treat stormwater runoff, including the following:

<u>Alternative Surfaces</u>

- Pedestrian walkways throughout the site would be constructed with pervious concrete. The pervious concrete section allows water to infiltrate through the pavement and into the underlying soils below.

Micro-scale Practices

- Stormwater runoff from various site impervious areas (rooftops, roads, parking, pedestrian walks) would drain to five micro-bioretention areas east of the new UEPH barracks buildings. Micro-bioretention areas would temporarily pond stormwater up to a 12-inch depth before filtering the stormwater through media for infiltration into soils below, or (if impermeable soils are at subgrade) to underdrains before being conveyed to a storm drain system. Each micro-bioretention would be provided with an overflow inlet to convey larger, more infrequent storms.
- Grass swales would be provided alongside the UEPH barracks buildings to serve as pretreatment and convey runoff to the micro-bioretention areas.

3.3 BIOLOGICAL RESOURCES

Biological resources include native or naturalized plants and animals, as well as federally protected species and the habitats in which they live. Protected biological resources include plants and animal species listed by the State of Virginia as rare, threatened, or endangered, or by the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) as federally threatened or endangered. Special concern species are not afforded the same level of protection as the protected species; but their presence is taken into consideration by resource agencies involved in reviewing projects and permit applications.

In general, the areas surrounding Fort Myer are highly urbanized land, which is used primarily for commercial, federal, residential, and mixed-use with small parks and open spaces. The Arlington County, Virginia and Washington D.C. areas have few natural resources and are mainly covered in impervious surface (JBM-HH, 2022).

3.3.1 Vegetation

The native vegetation at Fort Myer has mostly been removed as a result of past training activities and development. The current vegetation consists of landscaped trees, shrubs, and grasses. There are small, scattered wooded areas that contain native tree species, such as red maple *(Acer rubrum)*, silver maple *(Acer dasycarpum)*, white oak *(Quercus alba)*, northern red oak *(Quercus borealis)*, sycamore *(Planatanus occidentalis)*, tulip poplar *(Liriodendron tulipfera)*, and black cherry (*Prunus serotina)*. The common grasses include Kentucky bluegrass *(Poa pratensis)*, red fescue *(Festuca rubra)*, perennial ryegrass *(Lolium perenne)*, zoysia grass *(Zoysia matrena)* and Bermuda grass *(Cynodon dactylon)* (JBM-HH, 2022).

Tree surveys were conducted in 2009 (Fort McNair) and 2010 (Fort Myer) and approximately 4,500 trees were recorded along with the data on species, condition, and size. Common tree plantings included native species, such as red maple, willow oak *(Quercus phellos)* and Eastern red cedar *(Juniperus virginiana)*. Native trees include white oak, northern red oak, silver maple, sycamore, tulip poplar, and black cherry. Non-native landscape species include Yoshino cherry *(Prunus yedoensis)* and Japanese pagoda tree *(Sophora japonica)* (JBM-HH, 2022).

Based on data from other portions of the Installation, native plant species most likely found at Fort Myer are wild garlic *(Allium vineale)*, wild onion *(Allium canadense),* common chickweed *(Stelleria media),* crabgrass *(Digitaria sp.),* buttercups *(Ranunculus sp.)*, and ground ivy *(Glecoma*

headeracea). Herbicide applications are utilized to manage invasive species through the Integrated Pest Management Plan (IPMP) for Fort Myer (JBM-HH, 2022). At the proposed UEPH barracks location, there are landscaped and non-landscaped trees, shrubs, and grasses, along with multiple mature willow oak trees **(Figure 8)**. At the habitat restoration area, there are various mature trees, both living and dead, along with maintained grasses.

Figure 8. Trees/vegetation within and adjacent to the Proposed UEPH Barracks Location
Source: Falls, 2022

3.3.2 Fish and Wildlife Resources

There is various wildlife present on Fort Myer that consists of species adapted to urban environments. Commonly found wildlife species include eastern gray squirrels (*Sciurus carolinensis)*, rabbits (*Oryctolagus sp.)*, raccoons *(Procyon lotor)*, chipmunks *(Tamias sp.)*, snakes (*Serpentes sp.)*, and birds (*Aves sp.)*. Red foxes *(Vulpes vulpes)* have also been observed on the Installation, but the species is sighted infrequently. Common pests found on Fort Myer are rodents, insects, and various bird species, such as starlings *(Sturnus vulagris)* and pigeons *(Columba livia)*. The IPMP implements sanitation, inspections, and mechanical control procedures, such as trapping and elimination to manage pest species (JBM-HH, 2022).

Migratory bird species, including neotropical species (warblers (*Passeri sp.)*, tanagers (*Thraupidae sp.)*, and flycatchers (*Muscicapidae sp.)*), may use the wooded area near the Fort Myer boundary for foraging opportunities. Bald eagles (*Haliaeetus leucocephalus)* have been observed at the Installation due to the proximity of the Potomac River where the species is a year-

round resident. Canada geese (*Branta canadensis)* and great blue herons *(Ardea herodias)* also use the Installation as a resting and foraging area (JBM-HH, 2022).

3.3.3 Rare, Threatened and Endangered Species

Under the ESA, an "endangered species" is defined as any species in danger of extinction throughout all or a significant portion of its range. A "threatened species" is defined as any species likely to become an endangered species in the foreseeable future. The ESA also provides the development of recovery plans describing the steps needed to restore a species population and their habitat.

The ESA requires Fort Myer to protect any endangered and/or threatened species found on its property, and Fort Myer must consult with USFWS on any action that may affect endangered or threatened species or that may adversely impact critical habitat.

Critical habitats, as defined by the ESA, are areas with physical or biological features essential to the preservation of a species that may require special management or protection. Federal agencies are required to take precautions to not destroy, or harm areas designated as critical habitat. The following considerations are made when determining critical habitat for a species: space for individual and population growth and normal behavior; cover or shelter; food, water, air, light, minerals, or other nutritional or physiological requirements; sites for breeding and rearing offspring; and habitats that are protected from disturbances or are representative of the historic geographical and ecological distributions of a species.

The USFWS Information for Planning and Consultation (IPaC) tool generated the official species lists for the UEPH barracks location and habitat restoration area of the proposed project on 02 March 2023 (**Appendix C**). The northern long-eared bat (NLEB) (*Myotis septentrionalis,* endangered) and the monarch butterfly (*Danaus plexippus,* candidate*)* were listed on both official species lists. The NLEB is described as a generalist species that can utilize bridges, deteriorated buildings, and dead or living trees that are equal to or greater than three inches diameter at breast height (DBH). The NLEB was uplisted from threatened to endangered on 31 March 2023. Further coordination with USFWS included the submission of a Review Package, containing the official species lists for both action areas, which was submitted to USFWS on 10 March 2023. USFWS requested completion of the new determination key for the NLEB for both project areas which was submitted on 24 April 2023 and resulted in a "not likely to adversely affect" (NLAA) determination. Section 7 review was determined to be complete on 17 May 2023, with no conservation measures recommended. The official species list also populated monarch butterfly, a candidate species, within both proposed project areas. A candidate species is determined to have sufficient data and knowledge surrounding the status of the species for listing; however, the federal listing is precluded by other higher priority actions. No further consultation or conservation measures are required under the ESA for a candidate species.

3.3.4 Environmental Consequences of the Alternatives on Biological Resources

3.3.4.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on biological resources if it:

- Causes a permanent net loss of habitat or a long-term loss or impairment of a substantial portion of local habitat on which native species depend;
- Causes an unpermitted loss or destruction of more than one acre of jurisdictional wetlands, including the filling or alteration of a wetland or portion thereof that would cause irreversible negative impacts to species or habitats of high concern; or,
- If a federally threatened or endangered species incurred any form of "take" under the ESA.

3.3.4.2 Proposed Action

For the UEPH barracks location, there would be adverse, minor, short-term impacts to wildlife due to construction noises, equipment, and staging. Once demolition and construction ceased, wildlife would be able to return to that location. In addition, adverse, moderate, long-term impacts would occur to vegetation where trees, shrubs, and grasses would be removed. Areas would be re-vegetated, and trees would be planted to meet NCPC mitigation requirements (See Section *3.3.4.4 Minimization Measures*).

For the habitat restoration area, there would be beneficial, moderate, long-term impacts that would occur due to the creation of habitat for wildlife and insect species with increased biodiversity, which includes native tree and shrub plantings. Adverse, minor, short-term impacts to wildlife would occur due to construction from noises, equipment, and staging.

Adverse, minor, long-term impacts would occur to grassy vegetation due to the proposed construction of the walking trail. Adverse, minor, long-term impacts would occur to trees proposed for removal; the same mitigation requirements for the UEPH barracks location discussed above would apply. The trees at this location have not yet been surveyed for species, DBH, and mitigation rate needs.

3.3.4.3 No-Action Alternative

Under the No-Action Alternative, there would be no changes to biological resources. Therefore, no impacts would occur because no demolition or construction activities would take place.

3.3.4.4 Minimization Measures

NCPC requires mitigation efforts for each tree removed. This includes trees less than 10 inches DBH. Each tree measuring greater than 10 inches DBH has a unique set of replacement criteria, such as a varying rate of replacement based on DBH and species condition. The rate of replacement ranges from a 1:1 to 6:1 replacement rate. For trees greater than 31.85 inches DBH, NCPC requires more specified criteria to address the age and maturity for these species. There are approximately 130 trees proposed for removal: 79 hedge trees, seven small trees, and 44 large trees. Eighteen (18) of the 44 large trees would meet the criteria of being greater than 31.85 inches DBH, requiring additional prohibitions regarding tree mitigation and replacement. It is estimated that at minimum, a total of 238 trees would be planted to satisfy the mitigation requirement at the UEPH barracks location. The mature willow oaks lining Sheridan Avenue would not be cleared.

3.4 CULTURAL RESOURCES

Cultural resources are "historic properties" as defined by the NHPA of 1966, "cultural items" as defined by the Native American Graves Protection and Repatriation Act of 1979 (NAGPRA), "archaeological resources" as defined by the Archaeological Resources Protection Act of 1979 (ARPA), "sacred sites" as defined by EO 13007 to which access is afforded under the American Indian Religious Freedom Act of 1978 (AIRFA), and collections and associated records as defined in 36 CFR 79.

Archaeological resources consist of locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains. Architectural resources include standing buildings, districts, bridges, dams, and other structures of historic significance. Traditional cultural properties include locations of historic occupations and events, historic and contemporary sacred and ceremonial areas, prominent topographical areas that have cultural significance, traditional hunting and gathering areas, and other resources that Native Americans or other groups consider essential for the persistence of their traditional culture.

Several federal laws and regulations—including the NHPA of 1966, the Archaeological and Historic Preservation Act of 1974, the AIRFA, the ARPA, and the NAGPRA of 1990—have been established to manage cultural resources. In order for a cultural resource to be considered significant, it must meet one or more of the following criteria for inclusion on the National Register of Historic Places (NRHP):

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and: A) that are associated with events that have made a significant contribution to the broad patterns of our history; or B) that are associated with the lives or persons significant in our past; or C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or D) that have yielded, or may be likely to yield, information important in prehistory or history.

The Fort Myer Historic District was designated as an NHL in 1972, as was Quarters 1. The Fort Myer Historic District is eligible for the NRHP under Criteria A, B, and C. The NCO duplexes, Buildings 426 through 439, lie outside of the boundaries of the original Fort Myer Historic District. The Fort Myer Historic District was expanded and revised to include all NCO quarters along the east side of Sheridan Avenue in a 2014 NRHP district nomination. These quarters now officially contribute to the Fort Myer Historic District. There are now a total of 91 buildings, two sites, and three objects which are either contributing resources to the NHL or have been recommended as contributing elements to the NRHP expanded district (JBM-HH, 2022).

The NCO duplexes were constructed in the early 1930's and built according to the Georgian/Colonial Quartermaster Corps standardized designs. Seven of the eight duplexes located along the east side of Sheridan Avenue are within the proposed UEPH barracks area. These are

composed of two units, A and B, with unit A on the north side of the building and unit B on the south. The NCO duplexes are spaced about 40 feet apart, set back approximately 35 feet from Sheridan Avenue, and back up directly against the west side of Morgan Lane, an alley with parking on the east side. Some of the duplexes were constructed with gabled roofs and some with hipped roofs. According to real property records held by Fort Myer, the interiors of all these homes have been significantly altered over the years. The front door transoms are the only known original architectural details left on the houses.

The proposed habitat restoration area is also located within the Fort Myer Historic District.

3.4.1 Native American Resources

On 23 November 2022, Fort Myer invited the following federally recognized Tribes to consult on this undertaking: Catawba Indian Nation, Eastern Band of Cherokee Indians, The Delaware Tribe of Indians, Delaware Nation, Cherokee Nation, Chickahominy Indian Tribe, Chickahominy Indian Tribe – Eastern Division, United Keetoowah Band of Cherokee Indians, Mattaponi Indian Nation, Upper Mattaponi Tribe, Monacan Indian Nation, Nansemond Indian Nation, Pamunkey Indian Tribe, Rappahannock Tribe, and Tuscarora Nation. The Delaware Tribe of Indians responded on 01 December 2022, indicating that the project is outside of their area of interest and that they have no comments. The Cherokee Nation responded on 23 November 2022, indicating that the project area is outside of their area of interest. See **Appendix A** for correspondence.

No known Native American Resources or sacred sites have been identified within the undertaking's area of potential effect.

3.4.2 Environmental Consequences of the Alternatives on Cultural Resources

3.4.2.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on cultural resources if it would:

- Result in adverse effects, as defined by the NHPA, on a historic property listed or eligible to be listed on the NRHP that are not resolved through a Memorandum of Agreement (MOA) with the State Historic Preservation Office (SHPO), and possibly with the ACHP;
- Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure the long-term preservation of the property's historic significance; or,
- Create conditions that would stop the traditional use of sacred or ceremonial sites or resources by a Tribe or Tribes, without discussion on a government-to-government level with the affected Tribe(s).

3.4.2.1 Proposed Action

The Proposed Action would require the demolition of seven existing NCO duplexes, two residential garages, a swimming pool facility (abandoned/not operational), and one swimming pool house (abandoned/not operational). The existing seven duplexes are family units that are in failed or poor condition, contain hazardous materials (HAZMAT) (lead-based paint and asbestos), and do not meet Army Standards or base programming needs. The NCO duplexes, swimming

pool/pool house, and parking garages fall under the recently executed Program Comment: *Department of the Army Program Comment for Inter-War Era Housing, Buildings and Structures, and Landscape Features 1919-1940* (Program Comment). A Building Disposition Report (BDR) is being completed in accordance with, and as defined in, the Program Comment's Appendix A: Design Guidelines for Army Inter-War Era Housing (1919-1940) (**Appendix D**). A BDR is prepared when it is determined that there are no prudent and feasible alternatives to demolition. The BDR provides an overview of the Installation; evaluates each prudent and feasible alternative to demolition and their costs; discusses the buildings' current condition and utilization; includes plans for salvage, inventory, and storage of any significant architectural elements for reuse elsewhere on similar housing units; measures for protection of adjacent historic and archeological resources from damage during demolition activities; defines the procedures for unanticipated discoveries of archeological resources during ground disturbing activities; and contains a basic design concept for the new replacement construction.

No other buildings, structures, or objects that contribute to the Fort Myer Historic District would be directly impacted by the demolition or construction activities under the Proposed Action. The habitat restoration area would be within the viewshed of the ANC and several contributing resources of the Fort Myer Historic District. Fort Myer is currently consulting with the SHPO, ANC, and other consulting parties to ensure the proposed plantings and recreational trails would have no adverse effect on these historic properties.

JBM-HH anticipates the proposed action will have no adverse effects on cultural resources pending concurrence from the Virginia SHPO. All potential adverse effects to cultural resources will be resolved through the Section 106 consultation before this EA is finalized and the FNSI is signed.

3.4.2.2 No Action Alternative

Under the No-Action Alternative, if the houses are not demolished, renovated, or adaptively reused, they would continue to deteriorate. The costs of their repair would continue to climb due to inflation. Fort Myer would run the risk of an adverse effect to historic properties through neglect.

3.5 SOCIOECONOMIC CHARACTERISTICS

Socioeconomic characteristics are defined by the interaction or combination of social and economic factors. Fort Myer is located in Arlington County, Virginia. Arlington County comprises an area of 26 square miles and is one of the smallest counties in Virginia, with one of the highest population densities. The population of Arlington County was 207,627 in 2010 and 238,643 in 2020 based on the decennial census data collected (U.S. Census Bureau [USCB], 2023); this is a 13 percent increase in population. There was an estimated 0.2 percent growth in population between 2021 and 2022 (USCB, 2023a) based on American Community Survey (ACS) data. The population is estimated to grow to approximately 301,200 in 2045, an increase of 21 percent from the 2020 decennial census (Arlington County, 2023a).

Fort Myer-Henderson Hall was expected to have a total population of 4,622 in FY 2021 including 2,528 military personnel and 2,094 civilians (JBM-HH, 2022). This includes those living in on-Installation housing.

3.5.1 Environmental Justice

3.5.1.1 Demographics and Environmental Justice

This section describes socioeconomic characteristics and environmental justice (EJ) communities in the project area. The project area includes the Fort Myer Census Tract (CT) Block Group (BG) and CT BGs north and south of Fort Myer that fall within the confines of the major roadways surrounding Fort Myer and could be potentially impacted by the project. These CT BGs include the following: CT 1017.03 BG 1, CT 1017.03 BG 2, CT 1034.01 BG 1, CT 1025.00 BG 1 and CT 9801.00 BG 1. CT 9801.00 BG 1 is part of the project area but has a population of zero since most of the BG includes ANC; therefore, no data is reflected in **Table 2** for this BG. Fort Myer examined socioeconomic data for the project area, Arlington County, and the State of Virginia to provide a comparative analysis. This project area was selected because it represents the geographic area that is most directly and indirectly impacted by the project.

EJ is the fair treatment and meaningful involvement of all people regardless of race, color, culture, national origin, income, and educational levels with respect to the development, implementation, and enforcement of protective environmental laws, regulations, and policies. EO 12898, *Federal Actions to Address EJ in Minority and Low-Income Populations*, requires federal agencies to consider whether their actions will result in disproportionate adverse impacts to minority (People of Color) and low-income populations. EO 14096, *Revitalizing our Nation's Commitment to Environmental Justice for All*, expands on EO 12898 to also include Tribal affiliation and disability in the definition of EJ. EJ analyses are performed to identify potential disproportionate adverse effects from proposed actions and to identify alternatives that might mitigate these effects (CEQ, 1997a).

Table 2 shows race and ethnicity for the BGs, project area, Arlington County, and the State of Virginia. All BGs had non-white populations within the same range as the project area, County, and State. Three BGs had higher Hispanic and Asian populations in comparison to the project area, County, and State. The U.S. Office of Management and Budget defines Hispanic as an ethnicity and persons who report themselves as Hispanic can be of any race (USCB, 2022). CT 1034.01 BG 1 and CT 1025.00 BG 2 had higher Hispanic populations than Arlington County and the State of Virginia. CT 1025.00 BG 2 was much higher (26 percent Hispanic) than the project area, County, or State at 16 percent, 15 percent and 10 percent, respectively. CT 1017.03 BG 1 has a higher Asian population (18 percent) than the project area (10 percent), County (10 percent), and State (7 percent). This BG is at the southern edge of the Installation boundary.

Table 2. People of Color Populations in the Project Area

Race/Ethnicity	Census Tract 1017.03 BG 1	Census Tract 1017.03 BG 2	Census Tract 1034.01 BG 1	Census Tract 1025.00 BG 1	Project Area	Arlington County	VA
Total Population Count	921	1,286	1,482	1,918	1,402	236,434	8,509,358
Hispanic or Latino	8%	10%	18%	26%	16%	15%	10%
White	64%	77%	73%	67%	70%	69%	66%
Non-Hispanic White	57%	73%	62%	42%	59%	61%	61%
Hispanic White	7%	4%	11%	25%	12%	8%	5%
Non-White	36%	23%	26%	32%	29%	30%	35%
Black or African-American	16%	6%	13%	15%	13%	9%	19%
American Indian and Alaska Native	0%	0%	2%	0%	<1%	<1%	<1%
Asian	18%	8%	3%	11%	10%	10%	7%
Native Hawaiian & Other Pacific Islander	1%	0%	1%	0%	<1%	<1%	<1%
Some other race	0%	4%	6%	0%	3%	5%	3%
Two or more races	1%	5%	1%	6%	3%	6%	5%
Total People of Color Population	399 (43 %)	342 (27%)	567 (38%)	1016 (58%)	581 (41%)	92,648 (39%)	3,300,022 (39%)

Source: EJ Screen American Community Survey (ACS) Summary Report 2016-2020; ACS 2015-2019; Table DP05 ACS Demographic (USCB, 2021a)

*Hispanic population can be of any race. The total People of Color Population refers to all individuals other than non-Hispanic whites. * May not sum to totals due to rounding. * CT 9801.00 BG 1 has a population of 0. Population is zero because of ANC.

Poverty data is not reported at the BG level. Therefore, poverty levels within the project area have been determined using CT data. The percent of the population below the poverty level across the three CTs is seven percent compared to six percent for Arlington County and ten percent for the State of Virginia. One CT (1017.03) included 15 percent of their population below the poverty level (USCB, 2021b).

Table 3 shows income characteristics for the four BGs, project area, County and State of Virginia. Median household income and per capita income was higher for all BGs and the project area in comparison to the State. Two BGs had a median household income below the project area and three had a median household income below the County. Based on the data collected, there may be a discrepancy for CT 1034.01 BG 1 as the median household income was $131,250 and the per capita income was $23,832. However, data from other years was evaluated and showed the same pattern.

Table 3. Income Characteristics in the Project Area

Income and Poverty Characteristics	Census Tract 1017.03 BG 1	Census Tract 1017.03 BG 2	Census Tract 1034.01 BG 1	Census Tract 1025.00 BG 1	Project Area	Arlington County	VA
Median household income	$102,850	$119,907	$131,250	$97,488	$112,874	$122,604	$76,398
Per capita income	$65,348	$126,197	$23,832	$58,802	$68,545	$73,078	$41,255

Source: 2021 ACS Median Household Income in Past 12 Months (in 2021 inflation adjusted dollars) Table B19013 (USCB, 2021c), Table B19301 (USCB, 2021d) Per Capita Income in Past 12 Months. Table S1901

ACS data (2016-2020) was evaluated for linguistically isolated populations. Two percent of households in CT 1017.03 BG 1 were linguistically isolated and speak Asian-Pacific Island languages. Eight percent of CT 1017.03 BG 2 is linguistically isolated and speaks Spanish (USEPA, 2023a).

ACS data (2016-2020) for high school education or higher was evaluated for the project area. Data was available at the CT level (USCB, 2023b). Ninety-seven percent of persons 25 and older in the project area had a high school education or higher when compared to Arlington County (94 percent) and the State of Virginia (91 percent), respectively.

ACS data (2016-2020) was evaluated for disability characteristics, but data was only available at the CT level (**Table 4**). CT 1034.01 had a higher percent of the population with disabilities (nine percent) when compared to the project area and Arlington County. However, the percent of the population with disabilities was lower than the state of Virginia, respectively.

Table 4. Percent of Population with Disabilities in the Project Area

	Census Tract 1017.03	Census Tract 1034.01	Census Tract 1025.00	Project Area	Arlington County	VA
Percent Population with Disability	6%	9%	7%	7%	6%	12%

Source: 2021 ACS Disability Characteristics Table S1810 (USCB, 2021e)

Under EO 14008, *Tackling the Climate Crisis at Home and Abroad*, CEQ was tasked with developing the Climate and Economic Justice Screening Tool (CEJST). CEJST evaluates USCB demographic (CT) datasets and environmental datasets to identify disadvantaged communities that are experiencing burdens in eight categories: climate change; energy; health; housing; legacy pollution; transportation; water and wastewater; and workforce development. The tool uses this information to identify communities that are experiencing these burdens and determines if they are disadvantaged because they are overburdened and underserved. Fort Myer and all CTs surrounding Fort Myer were evaluated using CEJST and no disadvantaged communities were identified.

In addition, USEPA EJScreen was used to evaluate the project area. This tool looks at 12 environmental indicators, combined with socioeconomic information. The EJ index highlights BGs with the highest intersection of low-income populations, people of color, and a given environmental indicator (USEPA, 2023b). All BGs within the project area were below the 80th percentile for environmental indicators.

Based on consultation with Tribal nations (**Appendix A**) and census data in **Table 2**, there would be no disproportionate impacts to persons with Tribal affiliations. CEJST, EJScreen and census data confirm that the project area is not considered an EJ or underserved community.

3.5.2 Protection of Children

On 21 April 1997, President Clinton issued EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. This EO directs each federal agency to ensure that its policies, programs, activities, and standards address disproportionate environmental health or safety risks to children that may result from the agency's actions. EO 13045 recognizes that a growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health and safety risks due to still developing neurological, immunological, physiological, and behavioral systems. Examples of risks to children include increased traffic volumes and industrial- or production-oriented activities that would generate substances or pollutants that children could come into contact with and ingest.

Historically, children have been present as residents and visitors (e.g., living in family housing, using recreational facilities) on Fort Myer. The Child Development Center (CDC) at Fort Myer provides childcare services to the Pentagon as well as to the families on Fort Myer. The Army has taken precautions for their safety by limiting access to certain areas, the use of fencing, and providing adult supervision.

3.5.3 Environmental Consequences of the Alternative on Socioeconomic Characteristics

3.5.3.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on socioeconomics if:

- It results in a disproportionate share of adverse environmental or social impacts being borne by People of Color or low-income populations;
- The health, safety, social structure, or economic viability of an environmental justice population are affected;
- Minimization efforts could not eliminate disproportionate effects to People of Color or low-income populations; or,
- Activities that would disproportionately raise risks to children through environmental or health hazards.

3.5.3.2 Proposed Action

Under the Proposed Action, no impacts to socioeconomic resources, including Environmental Justice and the Protection of Children, are anticipated.

3.5.3.3 No-Action Alternative

Under the No-Action Alternative, there would be no impacts to socioeconomic resources, including Environmental Justice and the Protection of Children.

3.6 LAND USE

The predominant land uses at Fort Myer are Community and Troop with smaller areas of Residential, Industrial, and Professional/Institutional scattered throughout the Installation. The following is a summary of existing land use conditions at Fort Myer. At the proposed UEPH barracks location, the current land use is residential and recreational. At the proposed habitat restoration area, the land use is currently a natural environment with grass and scattered trees. Additionally, individuals use this area recreationally.

Community

Except for the Commissary, most of the commercial-based activities on Fort Myer include shopping and dining services. These are located along the main north-south axis of McNair Road. There are currently four main areas that provide community support services and four others that are set aside for outdoor recreation: two tennis court areas, a baseball field, and swimming pool facilities.

The first area is located north of Jackson Avenue and west of Johnson Lane. Currently, this area offers several community service facilities such as Patton Hall and pools, post office, thrift stores, Army lodging facilities, Army Community Services, and the Morale, Welfare, and Recreation offices. Nearly all the facilities located in this area are within the Fort Myer Historic District and currently occupy buildings more than 50 years old.

The second area is along McNair Road in the central core of the Installation. It includes Building 404 – Dining Facilities Administration Center (DFAC), Building 405 – Recreation Center, Building 407 – Spates Hall, Building 411 – Bowling Center, Building 414 – Fitness Center, and Building 417 – Library.

The third area is accessed directly from the main gate (Hatfield Gate) on Carpenter Road and includes community support facilities such as Building 450 – Post Exchange, Building 441 – bank, gas station, shoppette, and Building 480 – chapel. In general, these community facilities are considerably larger in scale than those of the Fort Myer Historic District because they serve a more regional purpose.

The fourth area is located adjacent to Henderson Hall in the southern section of Fort Myer. The area includes Building 523 – Commissary, Building 525 – Rader Medical Clinic, Building 483 – CDC, and a baseball field (JBM-HH, 2022).

Troop

The total UEPH portion of the Installation encompasses the troop area of Fort Myer located in the central core. Several UEPH buildings have been renovated to meet current UEPH Standards (JBM-HH, 2022).

Residential

Family Housing consists of General Officer and Senior NCO housing within the Fort Myer Historic District. These homes are historic, colonial, and are maintained by the Executive Management Housing Directorate field (JBM-HH, 2022).

Industrial

The only industrial area on the Installation is located between ANC and Marshall Drive in the northern section of Fort Myer. This area houses the Department of Public Works (DPW) and storage facilities. It also includes a motor pool for The Old Guard, a fuel station, and a vehicle maintenance shop field (JBM-HH, 2022).

Professional/Institutional

Fort Myer's current administrative land uses are spread across the northern section of the Installation. These facilities include Building 59 – Garrison Command Headquarters, Building 305 – Offices of DPW, Building 205 – Directorate of Information Management Offices, and other buildings (JBM-HH, 2022).

Local Land Use/Areas Surrounding Fort Myer

Local land use surrounding Fort Myer includes residential, industrial, and commercial areas.

Residential

Areas zoned for residential use comprise the primary land use in the vicinity of Fort Myer. These zones are located north, west, and south of the Installation. While a range of residential zoning densities is present, the principal residential zones are characterized by multi-unit apartment dwelling districts located north and west of Fort Myer. Other residential areas in the vicinity include single-unit and limited two-unit dwellings (JBM-HH, 2022).

Industrial

There are three types of industrial zones in the vicinity of Fort Myer. All are located southeast of the Installation near the Pentagon, Pentagon City, and Crystal City. These industrial zones are small and number approximately 12 in all, often encompassing only a few parcels or less of land and as such are not considered a significant land use in the surrounding area. Many of these parcels are scattered along U.S. 1 at the southern edge of the County and around Long Bridge Park (JBM-HH, 2022).

Commercial

A considerable number and variety of commercial zones are located in the vicinity of Fort Myer indicating that commercial activity, especially office buildings and retail, is an appreciable land use in this area. Commercial zones are located in the Rosslyn and Courthouse areas and occur as a variety of medium to high-density, mixed-use developments. Commercial zones along the Columbia Pike are blended with residential zones, aiding in the development of a main street atmosphere. Commercial zones in Pentagon City are generally high-density, mixed commercial and residential zones (JBM-HH, 2022).

3.6.1 Environmental Consequences of the Alternatives on Land Use

3.6.1.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on land use if:

- It is inconsistent with existing land use plans or policies;
- It prohibits the viability of existing land use;
- Surrounding land use would be expected to substantially change in the short or long term;
- It conflicts with adjacent land use to the extent that public health or safety is threatened; or,
- It is incompatible with planning criteria that ensures the safety and protection of human life and property.

3.6.1.2 Proposed Action

At both proposed locations, the UEPH barracks and the habitat restoration area, there are no impacts anticipated because land use would not change due to implementation of the Proposed Action.

3.6.1.3 No-Action Alternative

The No Action Alternative would have no changes on land use at JBM-HH because no demolition or construction activities would take place.

3.7 AESTHETICS AND VISUAL RESOURCES

The Installation is located in a predominantly urban locale, with a few natural visual resources at Fort Myer, mostly associated with the viewshed of ANC. The viewshed from ANC to Fort Myer is protected by a restricted development zone within Fort Myer consisting of woods, open fields, and parking lots. Additionally, building height restrictions protect the integrity of the viewshed from ANC from any development within Fort Myer. Visual resources at Fort Myer also consist of historical buildings and vistas of the Potomac River and Washington, D.C. Many of the historic buildings are located on the northern portion of the Installation and provide an aesthetic value (JBM-HH, 2022).

The viewshed is depicted in **Figure 9**, which shows aerial imagery with a 1-mile buffer. Visual resources at Fort Myer consist of views into ANC and vistas of the Washington Monument and the Pentagon from the northeastern and southeastern portions of the Installation. The southeastern view is dominated by vegetative screening and fencing to buffer traffic noise from Washington Boulevard. To the northwest, the view is limited by the loading dock at the back of the Commissary, the Rader Clinic, and parking lots (JBM-HH, 2022). While the new UEPH barracks building would be visible from ANC (**Figure 10**), they would be designed in coordination with the current historic architecture of the Installation. The roofing would include grey materials and would be constructed with existing built resources on the Installation.

3.7.1 Environmental Consequences of the Alternatives on Aesthetics and Visual Resources

3.7.1.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on visual impacts if:

- Long term alteration of the viewshed requiring minimization would occur;
- Negative alterations to the viewshed of a historical resource would be expected; or,
- It is not compliant with the overall viewshed of adjacent areas.

3.7.1.2 Proposed Action

At the UEPH barracks location, during the construction period, adverse, negligible, short-term impacts are anticipated from clearing, demolition, and construction equipment. The Proposed Action would have adverse, negligible, long-term impacts to the viewshed of historical resources based on the demolition of existing historical buildings. However, the newly constructed UEPH barracks buildings would have a historical appearance to blend with the current architectural style and resources.

At the habitat restoration area, the Proposed Action would have adverse, negligible, short-term impacts on the viewshed from construction activities and the presence and use of large equipment. No long-term impacts to visual resources would be anticipated due to the construction activities being temporary.

3.7.1.3 No Action Alternative

No impacts would occur to aesthetics and visual resources under the No-Action Alternative because no demolition or construction activities would take place.

3.7.1.4 Minimization Measures

Projects would be initiated only after the environmental review has been completed and the required permits are obtained. To protect the visual aesthetics of historic properties, renovation of eligible buildings within the Fort Myer Historic District would consider the design and history of the resource being affected. Preservation of existing vegetation buffers and vegetation enhancement of the landscape to provide visual screening between development and viewshed resources inside and outside of the Installations would be implemented. Replanting and restoration of vegetation and landscaping after construction activities would be incorporated into existing and future projects to maintain scenic integrity.

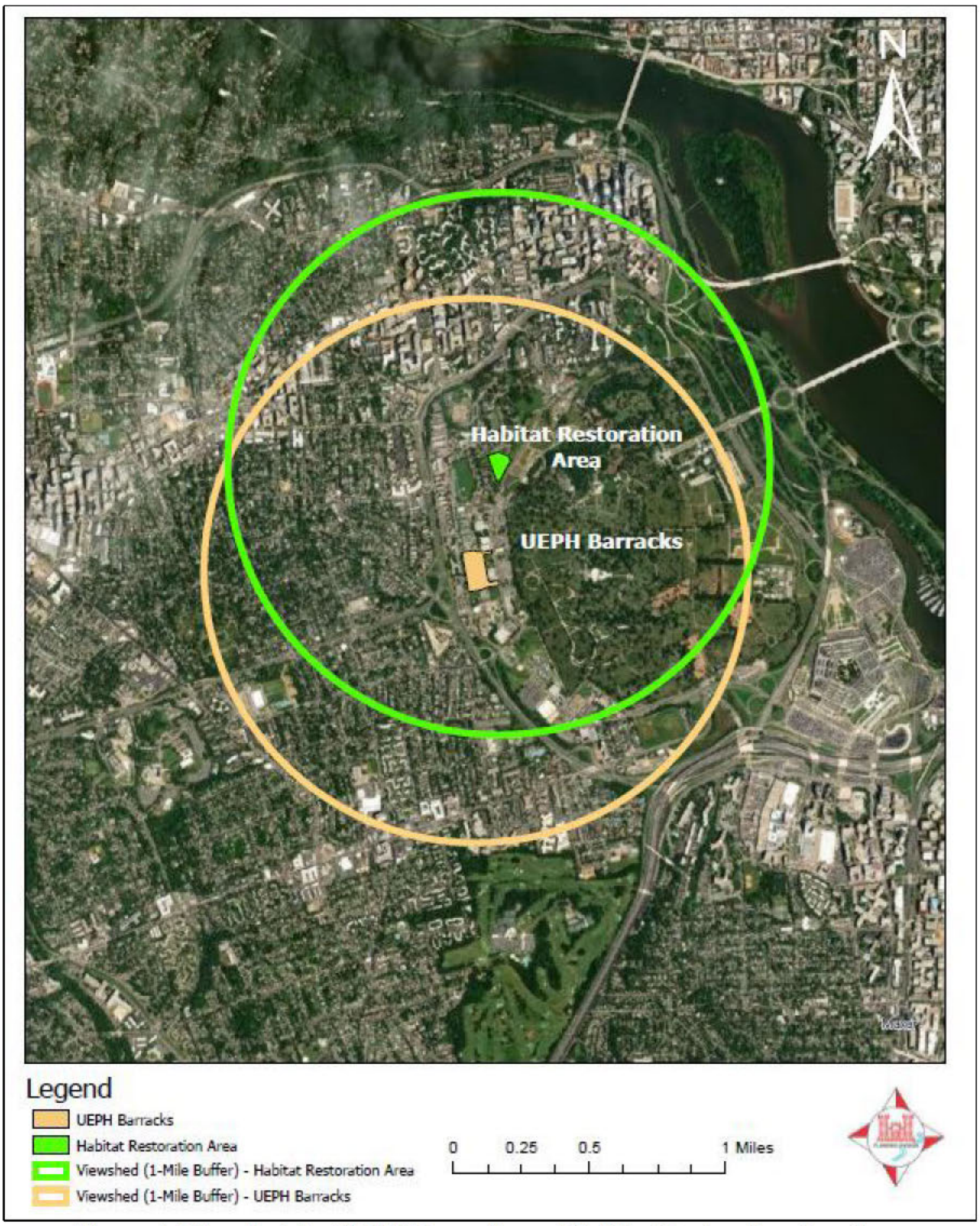

Figure 9. Viewshed for UEPH Barracks and Habitat Restoration Locations

Figure 10. View from ANC East Parking lot looking towards UEPH Barracks location
Source: Falls, 2022

3.8 TRAFFIC

Fort Myer is located in Arlington County and is serviced by major highways including the Henry G. Shirley Memorial Highway (Maryland Route 395), Richmond Highway (Virginia Route 110), and Washington Boulevard. These roadways provide major commuter routes to central Washington, D.C. and outlying areas of northern Virginia and Maryland. Based on latest data (2021) from the Virginia Department of Transportation (DOT), Maryland Route 395 has an average daily traffic (ADT) of approximately 122,000 vehicles, while Virginia Route 110 and Washington Blvd have an ADT of 57,000 and 54,000 vehicles, respectively, in the areas immediately adjacent to Fort Myer (Virginia Roads, 2021).

There are currently six access control points on Fort Myer. Primary circulation within Fort Myer is along four north-south transit corridors. The primary road network within JBM-HH is comprised of Marshall Drive, Jackson Avenue, McNair Road, Sheridan Avenue, Carpenter Road and Southgate Road.

The proposed UEPH barracks location is bounded by McNair Road along the east and Sheridan Avenue along the west. The proposed habitat restoration area is bounded by McNair Road along

the east and residential area roads along the north and west. McNair Road is the most traveled as it runs in a north-south direction connecting Jackson Avenue to Carpenter Road and providing direct access to community service facilities that include the dining facility, library, Commissary, bank, and Memorial Chapel. Sheridan Avenue is a two-lane road that links the Fort Myer Historic District with the community service areas of Fort Myer.

There is an extensive network of pedestrian walkways that connect most areas of the Installation. The pedestrian corridor located between buildings on McNair Road and Sheridan Avenue, spanning from Summerall Field to the proposed UEPH barracks location, provides pedestrian access to all community support facilities and other areas of the Installation.

3.8.1 Environmental Consequences of the Alternatives on Traffic

3.8.1.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on traffic if it:

- Contributes to long-term increase in vehicle traffic that could not be accommodated by the existing roadway network; or,
- Results in long-term traffic circulation problems within Fort Myer and off-post.

3.8.1.2 Proposed Action

The Proposed Action would have adverse, minor, short-term impacts on traffic and roadways during demolition and construction activities. Some pedestrian pathways may be temporarily closed during demolition and construction. Traffic flow would be temporarily impacted during demolition and construction. Appropriate signage and placement of barriers would be implemented prior to and during demolition and construction activities to notify pedestrians and motorists and to divert traffic flow, as needed. A minor increase in traffic from construction vehicles is expected during demolition and construction activities. These adverse, minor, short-term impacts would cease once construction was complete.

Beneficial, minor, long-term impacts are expected from the decrease of commuter traffic into and from Fort Myer due to the decrease of service members living off-base. Beneficial, minor, long-term impacts to pedestrian access/walkways are expected from the extension of the pedestrian corridor along the new barracks to School Lane and the addition of walking paths within the proposed habitat restoration area.

3.8.1.3 No-Action Alternative

Under the No-Action alternative, service members that could reside on-post if housing were available would continue to commute to the Installation, if living off-post. Therefore, the No-Action alternative would have an adverse, minor, long-term impact on traffic within and immediately around the Installation.

3.9 UTILITIES

Utilities include electrical distribution, water, natural gas systems, central heating and cooling, and wastewater systems. The utility services are provided by a number of local agencies, DPW, and public utility companies.

Potable water and water for fire emergencies are delivered to Fort Myer by the Arlington County water system, which sources water from the Potomac River. The water is treated at the Dalecarlia Water Treatment Plant by the Washington Aqueduct Division, an agency of USACE, Baltimore District. Water is provided to the Installation via a 10-inch, cast iron water main, which is located on the southern and western portion of Fort Myer. Fort Myer uses approximately 0.33 million gallons per day (mgd) of potable water throughout the year, with peak usage occurring in June (15 million gallons per month).

Water, electrical, wastewater, and communication utility segments are present around the existing NCO duplexes and the swimming pool complex. An existing water supply line is located within the proposed habitat restoration area.

Wastewater from Fort Myer is treated by Arlington County's Water Pollution Control Plant. The Water Pollution Control Plant treats 23 mgd of wastewater (Arlington County, 2023b), with a current capacity of 40 mgd. The wastewater flow from Fort Myer is approximately 0.33 mgd throughout the year, with peak usage in June.

The electrical system on the Installation is owned and supplied by Dominion Virginia Power. Natural gas is supplied by Washington Gas, which also owns and maintains the Installation distribution system. Solid waste from Fort Myer is collected by a solid waste and recycling contractor. Segregated wastes (recycled and non-recyclable) are transported to a licensed waste facility.

3.9.1 Environmental Consequences of the Alternatives on Utilities

3.9.1.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on utilities if it:

- Reduces water availability or supply to existing users;
- Causes long-term or frequent disruption to utility service on- or off-post; or,
- Violates regulatory or permit limits related to utilities (e.g., by creating a wastewater discharge greater than an existing permit allows).

3.9.1.2 Proposed Action

Implementation of the Proposed Action is anticipated to have adverse, negligible, short-term impacts to water, wastewater, solid waste, electrical, and communication utilities during the demolition of the existing NCO duplexes, garages and pool complex, and the construction of the proposed barracks. During demolition and construction activities, power lines would be temporarily moved. Short-term disruptions to water supply could occur as existing buried water lines are accessed, disconnected from existing buildings to be demolished, and revised for connecting new water service lines to the new barracks. Localized short-term disruptions to sanitary sewer lines could occur during demolition activities and connection of lines to the new

barracks. Debris generated during demolition and construction activities would be disposed of in accordance with applicable local, state, federal, and Fort Myer regulations. Construction material would be recycled or reused to the greatest extent possible. Trees and other vegetation removed from proposed UEPH barracks location and the habitat restoration area would be recycled (turned into mulch or compost) and reused to greatest extent possible. Debris that cannot be recycled or reused would be taken off-post by the contractor to an approved landfill. Impacts to the existing water supply line within the proposed habitat restoration area would be minimized by avoiding construction activities in areas on and in the immediate vicinity of the water line.

The Proposed Action would result in both adverse and beneficial, negligible, long-term impacts on utilities. The adverse negligible impact is anticipated from the additional demands created by up to 200 new residents in the two proposed barracks on utilities including potable water, wastewater, solid waste, electrical and communication distribution and supply. However, the new barracks would utilize efficient building construction technology and operation systems. Heating and air conditioning would be generated by a dedicated HVAC system with improvements in energy efficiency, resulting in lower energy consumption than older systems. The electrical distribution system would be relocated underground in accordance with current standards of the Installation Design Guidelines and Dominion standards. The new barracks would be designed to meet applicable Army energy conservation standards and practices. Water consumption at Fort Myer would slightly increase, but low-flow fixtures would be installed to minimize demand requirements. Additional demand would be placed on the existing sewer system, but it is adequate to support the new demand.

3.9.1.3 No-Action Alternative

Under the No-Action Alternative, no construction of the UEPH barracks would occur and therefore, no impacts to utilities would be anticipated.

3.10 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

Hazardous materials are defined as any item or chemical which is a "health hazard" or "physical hazard" as defined by the Occupational Safety and Health Act (OSHA) in 29 CFR 1910.1200. The Toxic Substances Control Act (TSCA); OSHA; and the Emergency Planning and Community Right-to-Know Act (EPCRA) regulate hazardous substances and HAZMAT. The Resource Conservation and Recovery Act (RCRA) defines HAZMAT waste as any solid, liquid, gaseous or semisolid waste, or any combination of wastes that could or do pose a substantial hazard to human health or the environment and are classified as hazardous due to toxicity, reactivity, ignitibility, or corrosiveness.

USEPA is the primary agency tasked to oversee HAZMAT and waste issues under the TSCA, RCRA, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Superfund Amendments and Reauthorization Act. The U.S. DOT regulates the safe packaging and transporting of HAZMAT, as specified in 49 CFR Parts 171 through 180 and Part 397. The VDEQ provides oversight of HAZMAT and wastes in Virginia and Fort Myer.

Specific HAZMAT including asbestos containing materials, lead-based paint, munitions and explosive materials, lead piping, and corrosives have been used throughout the Installation's

history prior to the knowledge of their hazards. HAZMAT are stored in a variety of locations on Fort Myer, particularly in maintenance facilities such as carpentry, electric, painting, and plumbing shops, and petroleum supply points including service stations. There are no known HAZMAT within Fort Myer/JBM-HH (JBM-HH, 2022).

The Oil and Hazardous Substance Spill Prevention, Control, and Countermeasures Plan for Fort Myer identified 13 spill control areas. Ten of the 13 spill control areas contain petroleum products and are considered HAZMAT. Five of the 13 areas contain hazardous substances. The primary locations for hazardous material/waste storage are associated with DPW shops and Chemical Storage. The oil storage areas are associated with the boiler plant, transportation pool, and the Army Air Force Exchange Service station. No oil or HAZMAT/waste are stored within the proposed UEPH barracks location or habitat restoration area.

Fort Myer has an Integrated Pest Management (IPM) Program designed to reduce the use of pesticides in accordance with the U.S. Army's Pollution Prevention Program. The application of all pesticides is performed in accordance with both the U.S. Army's IPM techniques and program. A contracted pest control company performs installation pest control.

No munitions are stored within Fort Myer. No unexploded ordnances are present within Fort Myer.

Asbestos surveys have been conducted at Fort Myer to determine the extent of asbestos contamination. Many of the buildings in the Fort Myer area have asbestos-containing materials and lead-based paint since most of the buildings were built prior to 1978. Because of the similar construction components, it is likely the NCO duplexes contain asbestos-containing materials and lead-based paint. Mold was also observed in several of the unoccupied NCO duplexes during a USACE site visit on 14 December 2022.

The pool is closed and no longer in use. No chlorine or other pool chemicals are present in the pool complex.

3.10.1.1 Environmental Consequences of the Alternatives on Hazardous Materials and Waste Management

3.10.1.2 Significance Criteria

An alternative would be expected to have a significant adverse impact on HAZMAT and waste management if it would:

- Expose people or substantially increase their risk of exposure to hazardous substances, including explosives, without adequate protection;
- Substantially increase the risk of spills or releases of hazardous substances;
- Disturb restoration sites or the progress of cleanup activities at those sites so that adverse effects on human health or the environment could result;
- Conflict with established land-use controls; or,
- Result in noncompliance with applicable federal, state, or local laws and regulations; or with permits related to HAZMAT and waste management.

3.10.1.3 Proposed Action

Implementation of the Proposed Action would have a beneficial, minor, long-term impact due to reduction of HAZMAT materials present on Fort Myer through the demolition of the NCO duplexes and construction of new barracks that meet Army Standards for building design. HAZMAT remediation in the NCO duplexes would occur prior to the start of demolition. During demolition of any components in the NCO duplexes that could contain asbestos or lead-based paint, components would be collected and disposed of in accordance with local, state, and federal regulations. Personnel would use all appropriate Personal Protective Equipment (PPE) and would not be directly exposed to HAZMAT at any time during their removal, transportation or disposal. All safety precautions would be followed according to local, state, and federal regulations.

No other impacts to HAZMAT and waste management resources are anticipated from implementation of the Proposed Action.

3.10.1.4 No-Action Alternative

Under the No-Action alternative, the NCO duplexes would not be demolished and asbestos containing materials and lead-based paint would continue to be present within them. There would be adverse, minor, long-term impacts within the installation due to continued presence of asbestos containing materials and lead-based paint within the NCO duplexes. No other impacts to HAZMAT and waste management resources would occur under the No-Action Alternative.

3.11 AIR QUALITY

3.11.1 National Ambient Air Quality Standards and Attainment Status

The Clean Air Act (CAA) (42 U.S.C. §7401 et seq.) was passed in 1970 to protect the public's health and welfare. Last amended in 1990, the CAA requires the USEPA to set primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50), which are acceptable concentration levels, for the following six, principal (or "criteria") pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particle pollution also known as "particulate matter (PM)," and sulfur dioxide (SO_2). For PM, the NAAQs cover both PM less than 2.5 microns in diameter ($PM_{2.5}$) and particulate matter less than 10 microns in diameter (PM_{10}) (USEPA, 2023c). According to the USEPA, the primary standards "provide public health protection, including protecting the health of 'sensitive' populations such as asthmatics, children, and the elderly" while the secondary standards "provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings" (USEPA, 2023c). Units of measurement for the NAAQS are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air (µg/m3). In addition, short-term averaging times (e.g., 1-hour, 8-hour, and 24-hour levels) have been established for pollutants contributing to acute, or short-term, health effects, while long-term (e.g., 1 year) averaging times have been established for pollutants contributing to chronic, or long-term, health effects. Nonattainment areas are designated as Air Quality Control Regions (AQCR), or subdivisions thereof, that exceed the NAAQS for one or more criteria pollutant standards.

Fort Myer and Henderson Hall in Arlington County are within the National Capital Interstate AQCR, which encompasses all of the District of Columbia and the adjoining Maryland and Virginia counties (also known as the Washington, D.C.-MD-VA Region). This AQCR is currently

designated by the USEPA as "moderate" nonattainment for the 2015 O_3 NAAQ. The National Capital Interstate AQCR is in attainment for all other NAAQS (See **Table 5**) (USEPA, 2023d).

Table 5. National Ambient Air Quality Standards and Arlington County Status

Pollutant	Primary/ Secondary	Averaging Time[a]	Ambient Concentration Level	Arlington County Attainment Status
CO	Primary	1 hour[b]	35 ppm	Attainment
		8 hours[b]	9 ppm	
Lead (Pb)	Primary and Secondary	Rolling 3-month average[c]	0.15 µg/m3	Attainment
NO_2	Primary	1-hour[d]	100 ppb	Attainment
	Primary and Secondary	1 year[e]	53 ppb	
O_3	Primary and Secondary	8 hours[f]	0.070 ppm	**Nonattainment**
SO_2	Primary	1 hour[g]	75 ppb	Attainment
	Secondary	3 hours[b]	0.5 ppm	
$PM_{2.5}$	Primary and Secondary	24 hours[h]	35 µg/m^3	Attainment
	Primary	1 year[i]	12 µg/m^3	
	Secondary	1 year[i]	15 µg/m^3	
PM_{10}	Primary and Secondary	24 hours[j]	150 µg/m^3	Attainment

Source: USEPA, 2023c

[a]The period over which data are averaged and used to verify compliance with the emissions standard (USEPA, 2023e).

[b] Not to be exceeded more than once per year.

[c] Not to be exceeded.

[d] 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years.

[e] Annual mean.

[f] Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years.

[g] 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years.

[h] 98th percentile, averaged over 3 years.

[i] Annual mean, averaged over 3 years.

[j] Not to be exceeded more than once per year on average over 3 years.

3.11.2 Clean Air Act Conformity

States develop air quality plans, which are also referred to as State Implementation Plans (SIPs) that are designed to attain and maintain the NAAQS and to prevent significant deterioration of air quality in areas which demonstrate air that exceeds the NAAQS. The 1990 amendments to the CAA require federal agencies to ensure that their actions conform to the SIP in a nonattainment area, and do not contribute to new violations of ambient air quality standards, or an increase in the frequency or severity of existing violations, or a delay in timely state and/or regional attainment of the standards.

The Washington, DC-MD-VA Region SIP and its various revisions are prepared by the Metropolitan Washington Air Quality Committee (MWAQC), an entity that is certified by the

mayor of the District of Columbia and the governors of Maryland and Virginia. The MWAQC submits the SIP and its various revisions to the USEPA for approval.

As previously state above, federal agencies must ensure that their actions conform to the SIP in a nonattainment area. This is known as the General Conformity Rule (GCR). The purpose of the GCR is to:

- Ensure that federal activities do not interfere with the budgets in the SIPs;
- Ensure the attainment and maintenance of NAAQS; or,
- Ensure that actions do not cause or contribute to new violations of NAAQS.

USEPA developed two distinct sets of conformity regulations: one for transportation projects and one for non-transportation projects. Non-transportation projects are governed by general conformity regulations (40 CFR Part 93). The Proposed Action is a non-transportation project within a nonattainment area. Therefore, a general conformity analysis is required with respect to the 8-hour O_3 NAAQ.

The GCR specifies *de minimis* threshold emissions levels by pollutant to determine the applicability of conformity requirements for a project (See **Table 6**).

Due to the proximity to the urbanized east coast of the United States, Arlington County is considered an Ozone Transport Region (OTR). Because ozone formation is driven by other direct emissions, the GCR air quality analyses include ozone precursor gases—volatile organic compounds (VOCs) and nitrogen oxides (NOx). For an area in moderate nonattainment for the 8-hour O_3 NAAQ within the OTR, the general conformity *de minimis* threshold emission rates are 100 tons per year (tpy) for NOx and 50 tpy for VOCs (40 CFR 93.153). Therefore, if a project/action were to exceed the 100 tpy for NOx and/or 50 tpy for VOCs, then a formal, full conformity determination analysis and document would be required in accordance with the GCR.

3.11.3 Hazardous Air Pollutants

In addition to criteria pollutant standards, the USEPA also regulates hazardous air pollutant (HAP) emissions for each state. HAPs differ from criteria pollutants for they are known or suspected to cause cancer and other diseases, or have adverse environmental impacts. The USEPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) regulate HAPs based on available control technologies. Sources of HAP emissions at Fort Myer include stationary, mobile, and fugitive emissions sources. Stationary sources include boilers, incinerators, fuel storage tanks, fuel-dispensing facilities, vehicle maintenance shops, laboratories, degreasing units, and similar testing units. Mobile sources of emissions include private and government-owned vehicles. Fugitive sources include dust generated from demolition activities, open burning, detonation of munitions, and roadway traffic. Overall, Fort Myer is a minor source of HAPs.

Table 6. General Conformity De minimis Threshold Values

Criteria Pollutant	Tons/year
40 CFR 93.153(b)(1) – For purposes of paragraph (b) of this section the following rates apply in nonattainment areas (NAAs):	
O_3 (VOCs or NO_x):	
Serious Non-Attainment Areas (NA's)	50
Severe NAAs	25
Extreme NAAs	10
Other ozone NAAs outside ozone transport region:	100
Other O_3 NAAs inside an O_3 transport region:	
VOC	50
NO_x	100
Carbon Monoxide: All maintenance areas	100
SO_2 or NO_x: Al NAAs	100
PM_{10}:	
Moderate NAAs	100
Serious NAAs	70
$PM_{2.5}$ (direct emissions, $S0_2$, NO_x, VOC, and Ammonia):	
Moderate NAAs	100
Serious NAAs	70
Lead: All NAAs	25

Source: 40 CFR 93.153(b)(1)

3.11.3.1 Asbestos

Asbestos, identified by Chemical Abstract Service Registry Number (CAS RN) 1332-21-4, is classified as a HAP under the NESHAP regulations. The most commonly found asbestos in the United States are chrysotile, amosite, and crocidolite. The short, thin asbestos fibers released into the air are a hazard to people who inhale these fibers. There is no known safe level of exposure for persons working with asbestos or near the same area as an asbestos project. The asbestos NESHAP regulations can be found under 40 CFR Part 61, Subpart M. The asbestos NESHAP regulations will apply to the demolition portion of the Proposed Action.

The asbestos NESPHAP regulations require a thorough asbestos inspection where the demolition operation will occur. The regulations also require the owner or the operator of the demolition operation to notify the appropriate delegated entity (VDEQ) before any demolition. In addition, the regulations require work practice standards that control asbestos emissions during demolition activities. The work practices, explained in greater detail in the regulations, often involve removing all asbestos-containing materials, adequately wetting all regulated asbestos-containing materials, sealing the material in leak tight containers, and disposing of the asbestos-containing waste material as expeditiously as practicable.

On the state level, Virginia regulates how persons will work with asbestos and regulates those who train persons to work with asbestos. On the federal level, the USEPA regulates the asbestos abatement contractors and licenses, asbestos training providers, persons accredited to perform asbestos work, and the asbestos in schools program.

3.11.4 Greenhouse Gas Emissions

In April 2007, the U.S. Supreme Court determined that the USEPA has the authority to regulate greenhouse gases (GHGs) as air pollutants under the CAA (*Massachusetts v. EPA*, 549 U.S. 497 (2007)). GHGs are a particular group of gasses that have the ability to trap heat by absorbing infrared radiation in the atmosphere. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The main source of GHGs from human activities is the combustion of fossil fuels, including crude oil and coal. Other examples of GHGs created and emitted primarily through human based activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride.

Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has a value of one. For example, CH_4 has a GWP of 25, which means that it has a global warming effect 25 times greater than CO_2 on an equal-mass basis. To further simplify GHG analyses, total GHG emissions from a source are often expressed as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. While CH_4 and N_2O have much higher GWPs than CO_2, CO_2 is emitted in such higher quantities that it is the overwhelming contributor to CO_2e from both natural processes and human activities.

The CEQ is in the process of issuing final NEPA guidance on the consideration of GHG emissions and climate change. On 9 January 2023, the CEQ published interim NEPA guidance on consideration of GHGs and climate change in the *Federal Register* (88 Federal Register 1196). Although it is titled "interim" guidance, CEQ has stated that this interim guidance is effective immediately and agencies should use this interim guidance while CEQ incorporates public comments and works to finalize the guidance. According to the CEQ, this guidance was issued to provide greater clarity and more consistency in how agencies address climate change in NEPA reviews. In this interim guidance, CEQ provides several steps that agencies should take to assist with analyzing the effects of a proposed action on climate change: (1) quantify the reasonable foreseeable GHG emissions, (2) disclose and provide context for GHG emissions and climate impacts by, as relevant, monetizing climate damages using estimates of the social cost of GHG (SC-GHG), and (3) analyze reasonable alternatives, including those that would reduce GHG emissions relative to baseline conditions, and identify mitigation measures to avoid, minimize, or compensate for climate effects (88 Federal Register 1196).

3.11.5 Environmental Consequences of the Alternatives on Air Quality

3.11.5.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on air quality if it:

- Increases air pollution levels above any NAAQS;
- Triggers a full, formal conformity determination under the GCR; or,
- Substantially increases GHG emissions.

3.11.5.2 Proposed Action

To determine whether a formal, full conformity determination analysis is required in accordance with the GCR, Fort Myer estimated all direct and indirect emissions and compared them to the *de minimis* threshold emission levels as established at 40 CFR 93.153(b) (See Table 3.11.2). It is anticipated that the Proposed Action would result in adverse, minor, long-term impacts to air quality; however, estimated emissions are below the *de minimis* thresholds. U.S. Army guidance dictates that a Record of Non-Applicability (RONA) be prepared for federal actions in which proposed emissions are clearly *de minimis*. Detailed emission calculations and a RONA are provided in **Appendix E.**

Construction and vehicle emissions would result in adverse, minor, short-term impacts to air quality as a result of fugitive dust and vehicle emissions. Criteria and HAP emissions from the operation of construction vehicles would be temporary and localized. Coordination with VDEQ prior to project initiation would determine the applicability of permits required. Projects would be initiated only after the environmental review has been completed and the appropriate state permits are acquired. For a discussion on GHGs and the Proposed Action, please see Section 3.12.1.2 below.

3.11.5.3 No Action Alternative

Under the No-Action Alternative, no construction activities would take place and general emissions would stay at their current rate. No additional impacts to air quality would occur.

3.11.5.4 Minimization Measures

The developer and its contractors would use standard BMPs for air quality protection. Construction vehicles transporting excavation and fill material would be minimized through site design as movement of a large amount of dirt would be prohibitively expensive for these projects. Air quality impacts from emissions could be mitigated with emission control devices and keeping vehicles and construction equipment in good working order. Emissions from operational equipment would be regulated under Installation air permits issued to Fort Myer.

Mitigation efforts to reduce GHG emissions could be applied by maintaining emission control technology on construction equipment. For more information on GHG minimization measures, please see Section 3.12.2 below.

3.12 CLIMATE CHANGE

According to National Aeronautics and Space Administration (NASA)'s "Global Climate Change: Vital Signs of the Planet" website at "climate.nasa.gov," climate change is defined as "a long-term change in the average weather patterns that have come to define Earth's local, regional and global climates" (NASA, 2022). Climate change key indicators are as follows: global land and ocean temperature increases; rising sea levels; ice loss at Earth's poles and in mountain glaciers; frequency and severity changes in extreme weather such as hurricanes, heatwaves, wildfires, droughts, floods, and precipitation; and cloud and vegetation cover changes (NASA, 2022). As previously stated in Section 3.11.4 above, GHGs are a particular group of gases that have the ability to trap heat by absorbing infrared radiation in the atmosphere; therefore, GHGs emissions are responsible for global warming and climate change.

To help measure progress in making GHG reductions, the GHGs are further divided into three "scopes": Scope 1, Scope 2, and Scope 3. Scope 1 GHG emission are "direct" emissions that are owned or controlled by an organization/company (e.g., emissions from a company making products at its factory and driving its company-owned vehicles (World Economic Forum, 2022). In contrast, Scope 2 GHG emissions are "indirect" emissions created by the production of the energy that an organization/company *purchases* (i.e., purchased electricity, purchased heating/cooling, purchased steam); therefore, actions such as installing solar panels or sourcing renewable energy rather than using electricity generated fossil fuels would cut an organization's Scope 2 emissions (World Economic Forum, 2022). Lastly, Scope 3 emissions are GHG emissions from sources not owned or directly controlled by an organization/company, but nevertheless related to the organization/company's activities. Examples of Scope 3 emissions are employee commuting and business air travel (USEPA, 2023f).

Per CEQ's interim guidance discussed in the Air Quality, Section 3.11.4 above, Fort Myer is considering all available tools and resources in assessing and monetizing GHG emissions and climate change related to the Proposed Action. For example, the Army has been utilizing the USACE-developed Army Climate Assessment Tool (ACAT) to help Army Installations identify climate-related threats that could degrade mission readiness (Surash and Dornbos, 2020). Thus far, the ACAT has proven very helpful in improving Installation resiliency. Accordingly, the DoD has adopted and scaled the ACAT as the Defense Climate Assessment Tool and is using it to prioritize the most climate change vulnerable Installations across DoD (DA, 2022a).

As an Army Installation, Fort Myer/JBM-HH is also covered under the *Army Climate Strategy* (DA, 2022a) and its corresponding implementation plan, the *Army Climate Strategy Implementation Plan: Fiscal Years 2023-2027* (ACS-IP) (DA, 2022b). The importance of the Army Climate Strategy and the ACS-IP cannot be understated. According to the ACS-IP, "[a]ll Army components and organizations are addressing climate change under current authorities; however, these efforts have not, until now, been aligned in one plan to optimize effectiveness and efficiency." (DA, 2022b, pg. 4).

According to the ACS-IP, the Army currently follows the Federal Energy Management Program methodology for counting GHG emissions, as published by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy. Unless otherwise directed, the Army will continue to use this methodology for counting Scope 1 GHG emissions (DA, 2022b). The ACS-IP further elaborates by stating:

> This method counts "direct emissions" from Army vehicles and equipment, stationary sources, on-site landfills, wastewater treatment facilities, and fugitive emissions as scope 1. The Army calculates operational GHG emissions by tracking liquid fuel purchases for tactical vehicles and mobile equipment, no matter where those vehicles or equipment are used. The Army currently does not disaggregate its operational GHG emissions by physical location. The Army is aware of the potential for this approach to change in the future, which may require the Army to count all scope 1 and scope 2 GHG emissions based on the Installations where they are generated. (DA, 2022b, pg. 9).

The Army lists the following as end state goals of the Army Climate Strategy (collectively known as the Army Climate Strategy's "2050 end state":

- Achieve 50% reduction in Army net GHG pollution by 2030, compared to 2005 levels,
- Attain net-zero Army GHG emissions by 2050, and
- Proactively consider the security implications of climate change in strategy, planning, acquisition, supply chain, and programming documents and processes (DA, 2022a, pg. 5).

To advance these end state goals, the Army Climate Strategy establishes three Lines of Effort (LOE): LOE 1, LOE 2, and LOE 3, pertaining to Installations, acquisition & logistics, and training, respectively. As an Installation, Fort Myer will be particularly benefitting from LOE 1.

In order for the Army to achieve the Army Climate Strategy's 2050 end state, the ACP-IP must be carefully followed. In the short-term, the ACP-IP describes numerous specific tasks to be done over the next five fiscal years (FYs) to establish the necessary progress toward the 2050 end state. Most applicable to Fort Myer will be tasks listed in the ACP-IP such as climate change threat mitigation included in Army Military Construction (MILCON) planning and design processes; use of sustainable building materials; and development of Army policy to implement the federal "Buy Clean" policy for procurement of construction materials with lower embodied carbon emissions from manufacturing, transportation, Installation, maintenance, and disposal sub-processes.

3.12.1 Environmental Consequences of the Alternatives on Climate Change

3.12.1.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on climate change if it:

- Substantially increases GHG emissions.

3.12.1.2 Proposed Action

There would be adverse, minor, short-term impacts to climate change from the GHGs produced by construction equipment during the demolition and construction phase. However, this increase in emissions would cease once construction is finished. The increase in GHG emissions from the UEPH barracks is expected to be adverse, minor, and long-term because Fort Myer would be offsetting and reducing GHG emissions as part of carrying out the ACS-IP. Additionally, there would be an expected decrease of commuter traffic (and GHGs accordingly) into and from Fort Myer due to the decrease of service members living off-base. As previously stated in Section 2.1.1 above, the new barracks under the Proposed Action would also be seeking U.S. Green Building Council's LEED certification.

The Proposed Action would involve the restoration of approximately two acres of natural habitat to support the proposed barracks' LEED certification. The field area targeted for habitat restoration would be planted with native vegetation, including trees, shrubs and grasses, all of which would help facilitate natural carbon sequestration.

3.12.1.3 No Action Alternative

Under the No-Action Alternative, no construction activities would take place and GHG emissions would stay at their current rate. No additional impacts to climate change would occur.

3.12.1.4 Minimization Measures

As previously stated above in Section 3.11.6, mitigation efforts to reduce GHG emissions could be applied by maintaining emission control technology on construction equipment. Moreover, as described in more detail in Section 3.12 above, with the Army Climate Strategy and its corresponding ACS-IP now in place, GHG emission-reduction improvements at Fort Myer will be part of the Army's completion of tasks over the next five fiscal years (FYs) to establish the necessary progress toward the 2050 end state.

3.13 NOISE

The Noise Control Act of 1972 (42 USC 4901 *et seq.*) directs Federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. Noise is undesirable sound that interferes with normal activities or otherwise diminishes the quality of the environment. It may be intermittent or continuous, steady or impulsive, stationary or transient. Sound varies by intensity and frequency and the human ear responds differently to different frequencies. Sound pressure level is described in decibels (dB) and is used to quantify sound intensity. "A-weighted" decibels (dBA) approximate the perception of sound by humans and describe steady noise levels, though few noises are constant.

A change of a few dBA in noise level is barely perceptible to most people. A change of 10-dBA is considered substantial, and these thresholds are used to estimate a person's likelihood of perceiving a change in noise levels.

The major sources of noise at Fort Myer include aircraft overflights arriving and departing from Ronald Reagan Washington National Airport, and traffic within Fort Myer and on adjacent streets and highways. Impulse noise is also generated by occasional ceremonial recorded bugle calls, and firings of rifle and artillery such as cannon blasts during ceremonies. In general, noise generated within Fort Myer is short term in nature.

3.13.1 Environmental Consequences of the Alternatives on Noise

3.13.1.1 Proposed Action

The Proposed Action construction activities would have adverse, minor, short-term impacts on noise in the immediate area of the proposed UEPH barracks location and the habitat restoration area. Construction activities under the Proposed Action would involve demolition of the seven existing NCO duplexes, two residential garages, one pool, and one pool house. Construction activities would also involve site clearing and preparation of the new UEPH barracks location and the habitat restoration area. Construction equipment is expected to include gas and/or diesel-powered equipment such as excavators, cranes, backhoe-loaders, welders, aerial lifts, graders, pavers/paving equipment, rollers, and concrete mixing trucks. Once mobilized to the site, most of the equipment would remain within the proposed construction boundary of the proposed UEPH barracks location and habitat restoration area until the phase of construction for which the equipment was needed is complete.

The proposed UEPH barracks location is located approximately 600 feet from the Selfridge Gate on the western edge of ANC. The proposed habitat restoration area is located approximately 400

feet from the Old Post Chapel gate to ANC. Fort Myer would coordinate with ANC as needed, to establish mitigative measures to ensure construction noise would have limited impact on ANC visitors and services.

Impacts from permanent operation of the Proposed Action would result in adverse, negligible, long-term impacts associated with the increased population of new residents in the barracks, noise generated from presence of the new barracks, and noise associated with regular maintenance activities and traffic in the vicinity. Noise levels would generally be similar to those surrounding other existing barracks within Fort Myer.

3.13.1.2 No-Action Alternative

Under the No-Action Alternative, there would be no changes to the local noise environment. No impacts to noise levels would occur.

3.14 HUMAN HEALTH AND SAFETY

Human health and safety is defined as "the science of the anticipation, recognition, evaluation and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment" (Alli, 2008). This consideration is broad in scope and includes an analysis of effects that the action could have on the human environment, including on human health and safety. This includes the individuals performing construction at both the UEPH barracks location and the habitat restoration area and those who would inhabit the UEPH barracks.

3.14.1 Environmental Consequences of the Alternatives on Human Health and Safety

3.14.1.1 Significance Criteria

An alternative would be expected to have a significant adverse impact on human health and safety if:

- Direct human exposure to a health hazard or a safety risk substantially increases due to implementation of the Proposed Action.

3.14.1.2 Proposed Action

At the UEPH barracks location, beneficial minor long-term impacts would occur with the demolition of the existing housing due to the removal of HAZMAT (asbestos, mold, etc.). In the short term, however, there would be negligible adverse impacts to human health and safety to the workers removing the HAZMAT substances. As stated below in Section 3.14.1.4, workers would use PPE during the demolition to minimize this risk. PPE would also help protect workers during construction of the UEPH barracks.

At the habitat restoration area, no impacts are anticipated under the Proposed Action.

3.14.1.3 No-Action Alternative

No impacts would occur to human health and safety under the No-Action Alternative because no demolition or construction activities would take place.

3.14.1.4 Minimization Measures

With regard to protecting worker health and safety, workers would be expected to comply with all federal laws such as OSHA regulations, state and local regulations, and general contractor safety plans during the demolition and construction periods. Any electrical work for the Proposed Action would conform to applicable electrical and fire code requirements. During demolition of any components in the NCO duplexes that could contain asbestos or lead-based paint, components would be collected and disposed of in accordance with local, state, and federal regulations. Personnel would use all appropriate PPE and would not be directly exposed to HAZMAT at any time during their removal, transportation, or disposal. All safety precautions would be followed according to local, state, and federal regulations.

3.15 CUMULATIVE IMPACTS

CEQ regulations stipulate that the cumulative impacts analysis within an EA should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7). CEQ guidance in *Considering Cumulative Impacts Under the National Environmental Policy Act* (CEQ, 1997b) affirms this requirement, stating that the first steps in assessing cumulative impacts involve defining the scope of the other actions and their interrelationship with a Proposed Action. The scope must consider geographic and temporal overlaps among the Proposed Action and other actions. It must also evaluate the nature of interactions among these actions.

Cumulative impacts are most likely to arise when a relationship exists between a Proposed Action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with, or in close proximity to, the Proposed Action would be expected to have more potential for a relationship than those more geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative impacts.

To identify cumulative impacts, the analysis needs to address three fundamental questions:

- Does a relationship exist such that affected resource areas of the Proposed Action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
- If one or more of the affected resource areas of the Proposed Action and another action could be expected to interact, would the Proposed Action affect or be affected by impacts of the other action?
- If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the Proposed Action is considered alone?

The scope of the cumulative effects analysis involves both the geographic extent of the effects and the timeframe in which the effects could be expected to occur. For this EA, the geographic extent of the cumulative effects analysis is the Potomac River to the east, US 50 to the north and west and I-395 to the south. **Table 7** below identifies projects occurring within the same general timeframe and within the geographic extent defined above and whose effects, when added to those of the Proposed Action, may result in cumulative effects.

Table 7. Past, Present, and Reasonably Foreseeable Future Actions Contributing to Cumulative Impacts

Project	Description	Status
Fort Myer Barracks 248 Repair	Repair/Replace Barrack Facilities at Building 248 at Fort Myer. Scope of repair efforts shall consist of systems upgrades for maintenance and sustainability purposes, interior space reconfiguration and interior finish upgrades, minor new construction for accessibility purposes, and anti-terrorism force protection (ATFP) compliance.	Planned construction completion date: December 2023
Fort Myer Barracks Building 416 Repair	Repair failed and failing systems and components of Building 416. Systems and components include roofing, heating, ventilation and air conditioning (HVAC), electrical distribution, sanitary sewer, fire alarm and fire suppression systems, lighting, plumbing, doors, windows, etc.	Planned construction completion date: May 2025
Fort Myer, Dining Facilities Administration Center (DFAC) Renovation Building	This project entails swing space for use as a Temporary Dining Facility and modernization of the facility and introduction of a Training Kitchen. The capacity of the DFAC supports 400 persons.	Construction completion date: July 2022
Fort Myer, B238 Mere Paddock	Re-grade and increase water infiltration at Lower Paddock Site. Location is adjacent to the southern edge of the Fort Myer perimeter fence line along U.S. Route 50. Area between this field and the roadway will be cleared and a new drainage swale will direct water runoff into this area to reduce the amount of untreated stormwater being discharged into Arlington County's stormwater collection system.	Planned construction completion date: November 2023
Fort Myer, Stables and Paddock Repairs	Renovate Horse Stable Buildings 233 and 236 for The Old Guard (TOG) Caisson Platoon and two adjoining horse paddocks. Work will include new walls and doors within horse stalls, replacing walls in hallways, repair or replacement of inoperable windows, replacement of damaged ceilings, regrouting gaps in floor pavers, replacement of lighting with LED fixtures and upgrades and repairs to HVAC systems and building ventilation.	Planned construction completion date: October 2024
Fort Myer Family Housing (Fort Myer and Fort McNair)	Renovation of numerous Family Housing Quarters. Work includes HVAC replacement, water, sewer and electrical replacement and repair, foundation and foundation drainage repairs, slate roofing and roofing systems repairs, attic insulation, fire protection and alarm system, hard-wired interconnected smoke detectors, replacement and repair of windows and casing.	Planned construction completion date: March 2023

Fort Myer, Cody Child Development Center (CDC) Playground	Design/Build project for playground upgrades at CDC Building 483. Work includes demolishing three existing playground areas including numerous structures and associated playground safety surfacing, shade structures, hardscape and accessory equipment and replace with new equipment. Grading and drainage will be completed to ensure water is draining away from CDC and playground.	Planned construction completion date: March 2025
Marbella Apartments-1300 and 1305 North Pierce Street	Private development through Arlington Partnership for Affordable Housing (APAH), proposes to redevelop the site ("Marbella Apartments") and construct two new multifamily residential towers with a senior housing component and 100% of the units committed as Affordable Dwelling Units.	Approved by County Board February 2022.
ANC Southern Expansion and Roadway Realignment	Federal Highway Administration (FHWA) and DoD project that includes Cemetery expansion and the realignment of Columbia Pike from east of South Oak Street to Washington Boulevard, modification of the South Joyce Street intersection and the Columbia Pike/Washington Boulevard (Route 27) interchange, and removal of a segment of Southgate Road and construction of a new South Nash Street. As part of the realignment, a new location for the Cemetery maintenance compound will be added to the south of Columbia Pike. Project also includes a new multi-use trail adjacent to the cemetery, pedestrian and bicycle facilities, and a new tunnel between the cemetery and its new maintenance compound (Arlington Memorial Trail).	Planned construction: September 2021 - Summer 2025
T5965: Boundary Chanel Drive Modifications (Intersection at Old Jefferson Davis Highway (off of I-395 Boundary Chanel Interchange))	This project involves modifications to the intersection of Boundary Channel Drive and Old Jefferson Davis Highway immediately off of the I-395/Boundary Channel Drive Interchange. The project is part of the County's Long Bridge Park redevelopment initiative which includes the construction of a large regional aquatic Center.	Construction completion date: 2022

The following analysis examines the potential cumulative impacts on the natural and human-made environment that would result from the cumulative impact of the Proposed Action, in combination with other actions described in **Table 7**. Based on the assessment of past, present, and reasonably foreseeable future actions at and in the vicinity of the Proposed Action, a limited number of resource topics analyzed in this EA would be reasonably expected to experience cumulative impacts. These include soils, topography, coastal zone, stormwater, viewshed, utilities, air quality, Climate Change, and noise. There would be no cumulative impacts to vegetation as impacts caused by the demolition and construction of the UEPH barracks would be off-set by the habitat restoration aspect of the project. There would also be no cumulative impacts to cultural resources under the assumption that any future potential adverse impacts to historic properties can successfully be resolved through the Section 106 consultation process. Resources not impacted by the Proposed Action are not considered in this analysis.

3.15.1 Topography and Soils

Past, present, and reasonably foreseeable future projects within and around Fort Myer/Henderson Hall have and would likely continue to convert land from open space to development. However, a majority of the area is built out and many of these projects include redevelopment. The Proposed Action is expected to increase the footprint of Fort Myer where soil disturbances have occurred. With the appropriate BMPs, the Proposed Action, in conjunction with other past, present, and reasonably foreseeable future actions, is expected to result in cumulative impacts to topography and soils.

3.15.2 Stormwater and Coastal Zone

Development projects within and around Fort Myer/Henderson Hall that individually or collectively increase stormwater volume beyond the capacity of the existing facilities for stormwater retention would be considered a detriment. The Proposed Action takes place within the built and natural environment, and, with other planned actions listed in **Table 7**, could increase areas of poorly pervious and impervious surfaces and could redirect surface drainage. Design and SWM requirements would be strictly adhered to minimize cumulative impacts.

The Proposed Action would take place within the built and natural environment, all of which is within the coastal zone. The Proposed Action is consistent with the CZMA (16 USC § 1451- 1464) and is not reasonably anticipated to alter the coastal zone. Thus, the Proposed Action would have added cumulative effects to coastal zone resources. To ensure current and future actions do not cause further adverse impacts to coastal resources, actions are performed and monitored such that they are consistent with coastal zone policies.

3.15.3 Viewshed and Aesthetics

The installation and the area surrounding is predominantly urban. However, Fort Myer includes a historic district and is adjacent to ANC. Cumulative impacts would be minimized through vegetation buffers and vegetation enhancement to provide a visual screening. Therefore, cumulative impacts to viewshed and aesthetics would be negligible.

3.15.4 Utilities

Construction of the Proposed Action with past, present, and reasonably foreseeable future actions would result in negligible adverse cumulative impacts on utility service. Service disruptions to other facilities could occur while new utility infrastructure is being connected to existing systems. These disruptions would be minimized to the extent practicable through efficient construction sequencing (e.g., keeping existing utilities operational until the new utilities are ready to be connected), and affected end users would be given advance notice of anticipated disruptions. Further, the amount and types of development considered in this analysis is not unusual in an urban or suburban environment and is therefore not anticipated to result in substantial cumulative degradation of utility services.

3.15.5 Air Quality

Construction activities associated with the Proposed Action would result in minor adverse cumulative impacts related to air quality when considered in conjunction with other past, present, and reasonably foreseeable future actions as outlined in **Table 7**. However, criteria pollutant emissions, including fugitive emissions, from construction equipment and activities would not exceed National Ambient Air Quality Standards and would be lower than the applicable *de minimis* thresholds. Cumulative impacts on local and regional air quality would be minor. Further, proponents of past, present, and reasonably foreseeable future actions would be responsible for certifying compliance with applicable federal, state, and local requirements as needed.

3.15.6 Climate Change

Construction of the Proposed Action with past, present, and reasonably foreseeable future actions would result in short-term cumulative impacts during the demolition and construction phase of the UEPH barracks. Mitigation measures associated with the Proposed Action would alleviate long-term cumulative impacts to Climate Change.

3.15.7 Noise

Construction activities associated with the Proposed Action would result in short-term cumulative impacts in conjunction with other present projects occurring at the same time. There would be long-term cumulative impacts to noise with 200 persons living in the new UEPH barracks. The noise level would be similar to noise generated at other barracks and would be in line with other urban areas in the vicinity of Fort Myer. Therefore, long-term cumulative impacts anticipated with the Proposed Action and other, present, and reasonably foreseeable future actions are in line with the urban nature of the area **Table 7.**

3.15.8 No Action Alternative

The no action alternative would not result in cumulative impacts because demolition and construction of the Proposed Action would not occur.

4 CONCLUSIONS

This EA has been prepared to analyze the potential environmental, cultural, and socioeconomic effects associated with the proposed demolition of seven existing NCO duplexes, two residential garages, one swimming pool, and one swimming pool house and the construction of two UEPH barrack buildings and the habitat restoration of approximately two acres.

The purpose of the Proposed Action is to provide additional updated housing for Fort Myer through the construction of UEPH Barracks to include living quarter suites with 200 bedrooms. The EA analyzes two courses of action: the Proposed Action and the No-Action alternative.

Table 8 summarizes the potential consequences that the Proposed Action and the No-Action Alternative would have on environmental resources.

Based on the evaluation of the environmental consequences evaluated in this EA, the preparation of an EIS is not needed. The preparation of a FNSI will be appropriate.

Table 8. Summary of Potential Environmental Consequences on Environmental Resources

Resource	Proposed Action	No-Action Alternative
Topography, Soils, and Geology	No impacts to geology. Adverse, negligible, long-term impacts to topography and soils.	No impacts
Water Resources (surface water, groundwater, floodplains, wetlands, stormwater, and coastal zone)	No impacts to surface water, groundwater, floodplains, and wetlands. Adverse, negligible, long-term impacts to stormwater and coastal zone.	No impacts
Air Quality	UEPH barracks: adverse, minor, long-term impacts to air quality.	No impacts
Biological Resources (vegetation, wildlife and RTE species)	UEPH barracks: adverse, minor, short-term impacts to wildlife. Adverse, moderate, long-term impacts to vegetation. Habitat restoration area: beneficial, moderate, long-term impacts. Adverse, minor, short-term impacts to wildlife. Adverse, minor, long-term impacts to vegetation.	No impacts
Cultural Resources	No impacts (SHPO concurrence pending)	No impacts
Land Use	No impacts	No impacts
HAZMAT and Waste Management	Beneficial, minor, long-term impacts.	Adverse, minor, long-term impacts.
Noise	Adverse, minor, short-term impacts.	No impacts
Traffic	Adverse, minor, short-term impacts on traffic and roadways during demolition and construction; beneficial, minor, long-term impacts	Adverse, minor, long-term impacts on traffic within and immediately around the Installation.
Utilities	Adverse, negligible, short-term and long-term impacts and beneficial, negligible, long-term impacts.	No impacts
Aesthetics and Visual Resources	UEPH barracks: adverse, negligible, short- and long-term impacts. Habitat restoration area: adverse, negligible, short-term impacts.	No impacts
Socioeconomic Characteristics (EJ and Protection of Children)	No impacts	No impacts
Human Health and Safety	UEPH barracks: beneficial, minor, long-term impacts and adverse, negligible, short-term impacts. Habitat restoration area: no impacts.	No impacts
Climate Change	UEPH barracks: adverse, minor, short-term impacts and adverse, minor, long-term impacts.	No impacts
Cumulative Impacts	Potential cumulative impacts to soils, topography, coastal zone, viewshed, utilities, air quality, GHGs and noise.	No impacts

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