

DRAFT ENVIRONMENTAL ASSESSMENT

**Department of Defense (DoD)
Cyber Crime Center**

U.S. Army Garrison,
Fort George G. Meade, Maryland



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1.0 INTRODUCTION

1.1 Project Background

This Environmental Assessment (EA) is prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, its implementing regulations published by the Council on Environmental Quality (40 *Code of Federal Regulations* [CFR] 1500-1508), and the Army NEPA regulations, *Environmental Analysis of Army Actions*, found at 32 CFR Part 651. Pursuant to NEPA, federal agencies are required to consider the environmental consequences of their proposed actions. NEPA typically applies when the federal agency is the proponent of the action or where federal funds are involved in the action.

Fort George G. Meade (FMMD) is approximately 5,108 acres in size and is located in northwest Anne Arundel County, Maryland, roughly halfway between Baltimore, Maryland, and Washington, D.C. FMMD is located near the Maryland communities of Odenton, Laurel, Columbia, and Jessup. FMMD is the largest employer in Maryland with a workforce of approximately 60,000 employees.

This EA provides NEPA analysis and documentation for the Proposed Action, which includes the construction and operation of a new, efficient, and effective Department of Defense (DoD) Cyber Crime Center (DC3) facility on FMMD. In addition, this EA evaluates the No Action Alternative.

The DC3 was established as an entity within the Department of the Air Force in 1998 and was officially designated a United States Air Force Field Operating Agency by the Secretary of the Air Force, effective January 15, 2021. DC3 is also designated as a Federal Cyber Center by National Security Presidential Directive 54/Homeland Security Presidential Directive 23 and a DoD Center of Excellence for digital and multimedia forensics by DoD Directive 5505.13E. DC3 also serves as the operational focal point for DoD's Defense Industrial Base Cybersecurity Program pursuant to 32 CFR Part 236. DC3 delivers capability with a team composed of Department of the Air Force civilians, Air Force and Navy military personnel, and contractors for specialized support.

2.0 PURPOSE AND NEED

The purpose of the Proposed Action is to consolidate the DC3 operations into one main facility located on FMMD. The Proposed Action is intended to increase collaboration with other agencies with similar missions on FMMD and provide adequate facilities for the DC3 mission.

The need for the Proposed Action is to facilitate optimal mission performance of the DC3. In 2015, the DC3 was directed by the Secretary of the Air Force to terminate further leasing of commercial facilities and pursue funding for military construction on FMMD. Since 2000, DC3 has leased 105,511 square feet (SF) of space in three separate buildings in Linthicum, Maryland. These leased facilities are aging and lack the proper security. For example, the forensic laboratory requires up to three full workstations with sufficient memory per examiner to run multiple analyses. Continued use of the current leased space would conflict with the 2015 directive, require extensive and costly renovations to commercial facilities, and severely limit DC3's collaboration with other agencies with similar missions located on FMMD.

2.1 Scope of the Environmental Assessment

Under the guidance provided in NEPA and in 32 CFR Part 651, an EA must be prepared for any proposed federal action when the agency does not know or is uncertain whether significant environmental impacts are expected; if an action may significantly affect the environment, an Environmental Impact Statement (EIS) would be prepared. An EA provides sufficient evidence and analysis for determining whether or not to prepare an EIS. Actions that are determined to be exempt by law, emergencies, or categorically excluded do not require the preparation of an EA or EIS, but the decision and analyses would be documented in a Record of Environmental Consideration if required. An EA contains an evaluation of the environmental consequences of the Proposed Action and the No Action Alternative including 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 (FONSI) or a Notice of Intent (NOI) to prepare an EIS.

This EA informs decision-makers and the public of the likely environmental impacts of the Proposed Action and the No Action Alternative. This EA identifies, documents, and evaluates environmental effects of the proposed activity at FMMD. Environmental effects would include those related to construction and operation of the Proposed Action. The Proposed Action, No Action Alternative, and other alternatives considered but eliminated are detailed in Chapter 3.0.

The existing conditions at FMMD are described in Chapter 4.0. These existing conditions, along with the No Action Alternative, serve as a baseline against which other alternatives will be measured to evaluate the effects of the construction and operation of the new DC3 facilities. The evaluation of potential impacts from the Proposed Action can also be found in Chapter 4.0 following the descriptions of each resource area. The following resources are evaluated in this EA: visual resources; earth resources; air quality and climate change; noise; water resources; coastal zone management; biological resources; transportation, energy, and utilities; hazardous, toxic, and radioactive substances; socioeconomics; and protection of children.

2.2 Public Involvement

Public participation opportunities with respect to this EA and decision-making on the Proposed Action are guided by 32 CFR Part 651. Upon completion, the EA will be made available to the

public for 30 days, along with a draft FONSI. At the end of the 30-day public review period, the Army will consider any comments submitted by individuals, agencies, or organizations on the Proposed Action, the EA, or draft FONSI, if applicable. As appropriate, the Army may then execute the FONSI and proceed with implementation of the Proposed Action. If it is determined prior to issuance of a final FONSI that implementation of the Proposed Action would result in significant impacts, the Army will publish in the *Federal Register* an NOI to prepare an EIS, commit to mitigation actions sufficient to reduce impacts below significance levels, or not take the action.

The *National Historic Preservation Act* (54 USC § 300101, et seq.) (NHPA) and its regulations at 36 CFR Part 800 direct federal agencies to consult with tribes when a proposed action or alternatives may have an effect on tribal lands or on properties of religious and cultural significance to a tribe. Consistent with the NHPA, DoD Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, FMMD has invited federally recognized tribes that are historically affiliated with lands in the vicinity of the Proposed Action to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation and requires separate notification to all relevant tribes. The timelines for tribal consultation are also distinct from those of the other consultations. The FMMD point of contact for tribes is the Garrison Commander. The point of contact for consultation with the Tribal Historic Preservation Officer and the Advisory Council on Historic Preservation is the FMMD Cultural Resources Manager.

2.3 Environmental Laws and Regulations

Army decisions that affect environmental resources and conditions occur within the framework of numerous laws, regulations, and Presidential Executive Orders (EOs). Some of these authorities prescribe standards for compliance while others require specific planning and management actions to protect environmental values potentially affected by Army actions. Compliance with environmental regulations and EOs include, but are not limited to, the *Clean Air Act* (42 USC § 7401 et seq., as amended) (CAA), *Clean Water Act* (33 USC § 1251 et seq.) (CWA), Section 106 of the NHPA, *Coastal Zone Management Act of 1972* (16 USC § 1451 et seq.) (CZMA), *Endangered Species Act* (16 USC § 1531–1544) (ESA), *Fish and Wildlife Coordination Act* (16 USC § 661–666(e)), *Archaeological Resources Protection Act* ([16 USC §§ 470aa–470mm](#)), *Migratory Bird Treaty Act* (16 USC §§ 703–712) (MBTA) *Noise Control Act of 1972* (42 USC § 4901 et seq.), EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, and EO 14096, *Revitalizing Our Nation’s Commitment to Environmental Justice for All*. In addition, this analysis will comply with the CEQ’s January 9, 2023, *Interim Guidance on Consideration of Greenhouse Gas (GHG) Emissions and Climate Change*, and the Department of the Army Headquarters Memorandum, “Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in Army National Environmental Policy Act Review,” dated June 27, 2023.

3.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

3.1 Proposed Action

The Proposed Action includes the construction and operation of a new, approximately 238,800-SF facility within a secured fenced area. Because the DC3 encompasses two major missions, an operations program and an academy program, the building design concept consists of two wings: the operations wing (two four-story buildings and a four-story connector building) and an academy wing (one four-story building and a one-story connector building). The site design also includes a parking structure, sidewalks, landscaping, stormwater management facilities, and utility service connections. The buildings would serve approximately full-time personnel and the students attending the academy.

The Proposed Action would involve clearing and grading 33 acres of mature wooded forestland for the construction of the DC3 facility within lands controlled by FMMD. The Proposed Action would be constructed in three phases, or “packages,” over a 2-year time period.

3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. This entails DC3 continuing to use the current leased buildings in Linthicum, Maryland. The No Action Alternative does not address the needs of DC3 to securely consolidate their operations and collaborate with other co-located federal agencies with similar missions. The academy program lacks the classroom space and equipment to conduct investigation and response training for DoD certifications. Leased spaces are also difficult and costly to reconfigure or modify to meet new mission parameters. Further, continued use of the current leased spaces would not meet the DC3’s need to comply with the higher command’s 2015 directive.

3.3 Other Alternatives Considered But Eliminated

3.3.1 Screening Criteria

The screening criteria for the Proposed Action alternatives require a site that is 1) located on FMMD; 2) on available land (not already built or entitled to another tenant/use); 3) an adequate acreage to support the facility, parking, and access control; 4) consistent with the FMMD Master Plan; and 5) on a site with adequate visual screening and offset from heavily trafficked roadways.

Although numerous sites have been considered, as described below, no alternative site has been approved by FMMD’s master planning for potential consideration in accordance with the Installation’s future development plan. When considered against that criterion and the remaining screening criteria, these alternative sites were removed from further analysis.

3.3.2 Alternative 1

A site north of the current Proposed Action location would be large enough to support the facility but is not hidden from highway visibility. It is also heavily forested and currently supports a stream restoration project, and, thus, would be incompatible with Installation priorities for land use and natural resources management.

3.3.3 Alternative 2

Alternative 2 involves an approximately 15-acre site north of General Aviation Drive in the southwestern corner of FMMD. It includes land that is available and of adequate acreage to support

construction of the facility, but it does not offer an adequate visual screen from the general public, as it is located directly south of access ramps to Maryland 32.

3.3.4 Alternative 3

Alternative 3 would involve a project area adjacent to the closed landfill cells in the southeastern corner of FMMD, in an area that currently does not support any structures and contains forest and wetlands. It is a large enough area to support the size of the facility; however, a portion of it is currently the subject of a pending real estate action in support of a proposed solar array field, thus is not compatible with current master planning goals. The site is also close to Maryland 32 and an active shooting range. The forested area is adjacent to the U.S. Fish and Wildlife Service (USFWS) Patuxent Research Refuge, which provides over 12,000 acres of nearly contiguous forest within the urbanized corridor of Baltimore-Washington, D.C.

3.3.5 Alternative 4

In light of increased teleworking in the aftermath of the Coronavirus Disease 2019, as well as escalating costs of building materials, DC3 considered construction of the headquarters complex on a parcel of land of a reduced size to accommodate the anticipated requirements of a two-phased design that removes the academy/classroom space. This option was subsequently dismissed in favor of the full design to adequately account for future needs as well as optimized mission operations.

3.3.6 Alternative 5

DC3 explored space availability within the National Capital Region, but no sites were more suitable than the FMMD “cyber corridor” to meet DC3 mission objectives. Additional sites were considered on Joint Base Andrews and the Naval District DC, but no open land was available for new construction for a facility of this size. Therefore, this alternative was removed from further consideration.

3.3.7 Alternative 6

Alternative 6 involves the leasing of other off-site facilities. Because security measures and fiber optical connections to the existing leased facilities are currently very expensive, it is expected that these measures and connections would be cost prohibitive at other off-site, leased facilities. Finding a single facility to securely consolidate the DC3 Operations Facility and the DC3 Academy would be very difficult. This alternative was eliminated from further evaluation because it would be cost prohibitive and not meet building lifecycle requirements, not be adequately secure, nor be operationally efficient for the DC3.

4.0 EXISTING CONDITIONS AND ENVIRONMENTAL CONSEQUENCES

The U.S. Army is committed to fostering responsible stewardship of the natural resources held in its trust and has decreed to be a leader in the field of environmental stewardship. Conservation is a pillar of the Army's environmental mission to ensure the future, including the recognition that the ecological approach to management of natural habitats will yield comprehensive benefits, promote Best Management Practices (BMPs) and promote beneficial impacts within and beyond the geographic boundaries of FMMD.

This section identifies and evaluates the anticipated environmental impacts associated with implementing the Proposed Action and the No Action Alternative in accordance with the CEQ guidelines set forth in 40 CFR § 1508.8.

4.1 Framework for Analysis

To provide a framework for the analyses in this EA, the U.S. Army Corps of Engineers (USACE) defined a study area specific to each resource or sub-resource area. Referred to as a Region of Influence (ROI), these areas delineate a boundary where possible effects from the considered alternatives would have a reasonable likelihood to occur. Beyond these ROIs, potential adverse effects on resources would not be anticipated. For the purposes of analysis, potential effects are described as follows:

- *Beneficial* – positive effects that improve or enhance resource conditions
- *Adverse* – negative or harmful results
- *Negligible* – effects likely to occur but at levels not readily observable by evaluation
- *Minor* – observable, measurable, tangible effects qualified as below one or more significance threshold(s)
- *Moderate* – tangible effects that are readily apparent, qualified as below one or more significance threshold(s)
- *Significant* – obvious, observable, verifiable effects qualified as above one or more significance threshold(s); not mitigable to below significance

When relevant to the analyses in this EA, potential effects are further defined as direct or indirect; short or long term; and temporary, intermittent, or permanent.

To determine the potential for “significant” effects under the Proposed Action, USACE defined impact thresholds to support the analyses in this EA. Based upon the nature of the Proposed Action and the affected environment, both qualitative and quantitative thresholds were used as benchmarks to qualify effects. Further, a cumulative effects analysis considering the Proposed Action in conjunction with other past, present, and reasonably foreseeable environmental trends and planned actions at FMMD is presented in **Section 4.15**.

4.2 Environmental Resources Dismissed from Further Analysis

Based on the scoping process and prior analyses of similar development projects at FMMD, the Proposed Action has no mechanism to impact several environmental resources listed in **Table 1**. As a result, these environmental resources have been eliminated from further impact analysis in this EA.

Table 1. Resources Dismissed from Further Analysis

Resource	Rationale
Cultural Resources	<p>The Maryland Historical Trust has determined that this undertaking would have “No Adverse Effect” on historic properties. Therefore, the Proposed Action would have no adverse impact on cultural resources and this resource is dismissed from further analysis.</p> <p>To minimize the potential impact to previously unknown cultural resources during subsurface work, FMMD would implement an “Accidental Discovery” plan to comply with the NHPA, <i>Archaeological Resources Protection Act of 1979</i>, <i>Native American Graves Protection and Repatriation Act (NAGPRA)</i>, <i>American Indian Religious Freedom Act</i>, 36 CFR Part 79, and EO 13007, <i>Indian Sacred Sites</i>.</p> <p>Under this plan, if prehistoric or historic artifacts that could be associated with Native American, early European, or American settlement are encountered at any time during construction or operation of Proposed Action, FMMD would cease all activities involving subsurface disturbance in the vicinity of the discovery. Should human remains or other cultural items, as defined by NAGPRA, be discovered during project construction, all work would immediately cease until the FMMD Cultural Resources Manager, Maryland State Historic Preservation Office, and selected Native American tribes are contacted to properly identify and appropriately treat discovered items in accordance with applicable state and federal law(s). Implementation of these measures would ensure that the Proposed Action would have “No Adverse Effect” on historic properties or cultural resources.</p>
Land Use	<p>The Proposed Action would develop the site for military support functions that are consistent with the FMMD Master Plan and Area Development Plan. The Proposed Action would not prevent or induce a change in use of other private or public lands in the communities outside of FMMD. Therefore, the Proposed Action would have no impact on land use at FMMD or in the surrounding community, and this resource is dismissed from further analysis.</p>

4.3 Environmental Resources Carried Forward for Detailed Analysis

Based on the results of internal and external scoping completed by FMMD and USACE, the following resources were carried forward for analysis in this EA: visual resources; earth resources; air quality and climate change; noise; water resources; coastal zone management; biological resources; transportation, energy, and utilities; hazardous, toxic, and radioactive substances; socioeconomics and environmental justice; and protection of children.

4.4 Visual Resources

4.4.1 Definition of the Resources

Visual resources can be defined as the natural and man-made features that constitute the aesthetic qualities of an area. Natural visual resources occur in the landscape, typically without human assistance, and include native or mostly undisturbed landforms, water bodies, vegetation, and animals, both wild and domesticated. Visual quality is defined as the impression a particular landscape has on its observers. The importance of visual resources and any changes in the visual character of an area is influenced by social considerations, including the public value placed on the area, public awareness of the area, and community concern for the visual resources in the area.

Visual resources also can include viewsheds, defined as the geographical area that is visible from a specific location. Viewsheds include all surrounding points that are in the line-of-sight with that location and exclude any points that are beyond the horizon or obstructed by other features. They can include cultural and historic landmarks, landforms of aesthetic value or significance, water surfaces, or vegetation. The viewshed informs the overall impression that a viewer receives of an area or its landscape.

4.4.2 Existing Conditions

4.4.2.1 Installation-wide

The visual characteristics of FMMD are dominated by areas improved with buildings, roadways, parking areas, landscaped grounds, and pockets of forest surrounded by development.

4.4.2.2 Proposed Action Site

The Proposed Action site has no existing structures, is undeveloped, and is heavily wooded with mature deciduous and coniferous trees. Several trails and streams run through the site.

4.4.3 Environmental Consequences

4.4.3.1 Evaluation Criteria

The Proposed Action would be considered to have a significant effect to visual resources if long-term alteration of the viewshed occurred and would require mitigation to resolve; negative alterations to the viewshed of a historical resource occurred; and the action was not consistent with the overall viewshed of adjacent areas.

4.4.3.2 Impacts from Construction of the Proposed Action

Short-term, minor, direct, adverse impacts on visual aesthetics would be expected during the construction period due to the presence of construction vehicles and other associated disturbances related to construction activities. Long-term, moderate, direct adverse impacts on visual aesthetics would occur as a result of site clearing associated with the Proposed Action. Specifically, approximately 33 acres of heavily forested land would be cut down in preparation for the DC3 facility footprint and associated infrastructure. The loss of trees would ultimately be offset through tree replacement in accordance with the Maryland *Forest Conservation Act* (FCA) and FMMD Tree Management Policy, as described in **Section 4.10.3.2.1** of this EA.

Because construction activities regularly occur throughout FMMD, construction activities associated with Proposed Action are not likely to be considered unusual or a nuisance.

4.4.3.3 Impacts from Operation of the Proposed Action

Operation of the Proposed Action would have long-term, negligible, direct, adverse impact on the visual characteristics of the Proposed Action site due to permanent conversion of the heavily wooded area into the DC3 grounds, which would be improved with the DC3 facility, lighting, parking, sidewalks, curbs and gutters, storm drainage, landscaping, signage, and other infrastructure. The DC3 facility and associated infrastructure would be sited and constructed in accordance with FMMD Installation design guides and the most current applicable federal and state codes, regulations, and design guidelines.

The characterization of these impacts is relative to the perspective of the viewers. Any vegetation disturbed during construction and subsequently restored would also be maintained during the

operational phase. The visual landscape would permanently change as a result of the cleared forested landscape and permanent construction of four-story buildings associated with the proposed DC3 activity; however, the facilities would be visually similar to other facilities at Fort Meade and would be consistent with the FMMD Master Plan. Therefore, the Proposed Action would be anticipated to result in long-term, negligible, adverse impacts to visual resources or nearby visual receptors.

4.4.3.4 No Action

Implementation of the No Action Alternative would not alter the existing visual or aesthetic conditions of the Proposed Action site. The Proposed Action site would remain in its current undeveloped, forested condition for the foreseeable future, but could be developed for other Army functions that are consistent with the FMMD Master Plan. Therefore, the No Action Alternative would have no impact on visual resources.

4.5 Earth Resources

4.5.1 Definition of the Resource

Earth resources consist of surface and subsurface materials and their properties. Topography refers to the shape, height, and position of the land surface. Soil refers to the unconsolidated materials overlying bedrock or other parent material. Geology refers to the structure and configuration of the earth's surface and subsurface features. Characteristics of geology include geomorphology, subsurface rock types, and structural elements.

The ROI for earth resources is the Proposed Action site.

4.5.2 Existing Conditions

4.5.2.1 Installation-wide

FMMD lies in the Atlantic Coastal Plain Physiographic Province, which is characterized by relatively flat topography that slopes toward the east (MGS 2020). FMMD has approximately 210 feet of topographic relief. The highest point is 310 feet above mean sea level and occurs at the First Army Radio Station Tower, located in the northernmost central portion of FMMD. The lowest elevation, less than 100 feet above mean sea level, occurs in the southwestern portion of FMMD, along the Little Patuxent River. Most of the FMMD property slopes gradually to the south and southwest. Slopes at FMMD are generally less than 10-percent grade (USACE 2007). Slopes exceeding 10 percent are rare and occur primarily in pockets in the north-central and central parts of FMMD and along stream corridors. These steep slopes usually occur in natural wooded areas and are ideally suited as vegetated buffer zones for more developed areas (USACE 2023).

While much of the level land at FMMD has been developed, the greatest topographical change occurs in the southeast portion of FMMD. This area is more forested and used for range and training areas (MBI 2020).

The U.S. Department of Agriculture (USDA) Natural Resources and Conservation Service (NRCS) has mapped 39 distinct soil types at FMMD (FMMD 2004). This section does not describe the wide range of soil types within the Installation; however, **Section 4.5.2.2** describes the soils located at the Proposed Action site. None of the soil resources are utilized for agricultural purposes.

4.5.2.2 Proposed Action Site

The Proposed Action site slopes to the southeast and topography ranges from 180 to 200 feet in elevation (USGS 2023).

Based on the USDA NRCS soil map, the soil at the Proposed Action site is classified as Russet-Christina-Hambrook complex (fine loamy with mixed mineralogy) with 5- to 10-percent slopes, Udorthents with 0- to 5-percent slopes, Downer-Hammonton complex (moderately well drained soils) with 2- to 5-percent slopes, Sassafras and Croom soils with 15- to 25-percent slopes, Downer-Phalanx complex with 5- to 10-percent slopes, Sassafras fine sandy loam with 2- to 5-percent slopes, and Woodstown sandy loam with 0- to 5-percent slopes (USDA NRCS 2023). These soil series typically tend to be well drained and range from low to high run-off classification.

The land at FMMD is designated for military use. Therefore, the *Farmland Protection Policy Act* is not applicable.

4.5.3 Environmental Consequences

4.5.3.1 Evaluation Criteria

Impacts to topography would be considered significant if the altered topography from a proposed action does not comply with the overall topography of adjacent land. Impacts to geology would be considered significant if there were substantial alternation of a unique or valued geologic condition.

Impacts to soils would be considered significant if the Proposed Action would cause substantial soil erosion or loss of topsoil, which would result in damage to waterways, ground instability, or impact to animal or human habitats.

4.5.3.2 Impacts from Construction of the Proposed Action

Under the Proposed Action, the DC3 facility and associated infrastructure would be located in the flattest area of the Proposed Action site, but filling and grading would still be required. Additionally, grading would be required to create stormwater drainage swales to facilitate stormwater flow from the DC3 site to the east toward Annapolis Road. These modifications to topography would be permanent but localized. Therefore, the modifications to topography made during construction and maintained during operation would have a long-term, minor, direct, adverse impact on topography at the Proposed Action site, but no impact on overall topographic conditions at FMMD or the surrounding area would be anticipated.

The Proposed Action construction activities would have short-term, minor, direct, adverse impacts on soils in the immediate area of the Proposed Action site. Soil disturbances in the form of excavations, grading, earthmoving, and compaction would result from construction activities. As a result, soils would be compacted, the soil layer structure would be disturbed and modified, and soils would be exposed, increasing the overall potential for erosion. Soil productivity (i.e., the capacity of the soil to produce vegetative biomass) would decline in disturbed areas and be eliminated for those areas within the footprint of the building, roads, parking lots, fences, and other features. Exposed soils would be more susceptible to erosion by wind and surface run-off, leading to a minor loss.

Adverse impacts to soils from construction activities would be minimized by proper construction management and planning and the use of appropriate site BMPs for controlling run-off, erosion,

and sedimentation during construction activities. Appropriate erosion and sediment controls, such as synthetic hay bales and silt fencing, would be installed during construction. Areas disturbed outside of the footprints of the new construction would be reseeded, replanted, and/or re-sodded following construction activities, which would decrease the overall erosion potential of the site and improve soil productivity.

An erosion and sediment control plan (ESCP) would be designed specifically for construction activities related to the Proposed Action in accordance with the Maryland Department of the Environment's (MDE's) *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* (MDE 2011). Erosion and sediment control features are anticipated to include stabilized construction entrance, silt fencing, earth dikes and/or diversion fencing, and sediment traps (USACE 2023).

Additionally, because the construction would disturb more than 1 acre of ground surface, FMMD (via the selected construction contractor) would apply to MDE for an Individual Permit for Stormwater Associated with Construction Activity. As part of the permit application, an ESCP and stormwater pollution prevention plan (SWPPP) would be required, as the Proposed Action is expected to exceed 5,000 SF. FMMD would prepare and submit these plans to the MDE, Water Management Administration for review and approval prior to the start of any construction activities. Areas disturbed within the equipment staging area would be reseeded, replanted, and/or re-sodded following construction activities, which would decrease the overall erosion potential of the site and improve soil productivity.

Additionally, the construction contractor would implement spill and leak prevention and response procedures, including maintaining a complete spill kit at the site, to reduce the impacts of incidental releases of construction vehicle fluids (such as diesel or hydraulic fluids) to soil quality. The construction contractor would report releases of regulated quantities of petroleum-based fluids to FMMD Department of Public Works (DPW) and be responsible for cleanup per state regulatory requirements.

4.5.3.3 Impacts from Operation of the Proposed Action

Operation of the Proposed Action would have a long-term, minor, direct, adverse impact on soil quality due to permanent cover by impervious surfaces and compaction. Soils exposed during construction and not covered with impervious surfaces would be revegetated, and the vegetation would be professionally maintained during operation to prevent exposing soils and resulting in erosion.

4.5.3.4 No Action

Under the No Action Alternative, existing topographic conditions at the Proposed Action site would remain unchanged. The Proposed Action site would remain vegetated, and there would be no mechanisms or activities to impact topography or soil quality. Therefore, the No Action Alternative would have no impact on earth resources.

4.6 Air Quality and Climate Change

4.6.1 Definition of the Resource

Air pollution is a threat to human health that damages trees, crops, other plants, waterbodies, and animals. It creates haze or smog that reduces visibility in national parks and cities and interferes with aviation. To improve air quality and reduce air pollution, Congress passed the CAA and its

amendments in 1970 and 1990, which set regulatory limits on air pollutants and help to ensure basic health and environmental protection from air pollution.

The U.S. Environmental Protection Agency (USEPA) has divided the country into geographical regions known as Air Quality Control Regions to evaluate compliance with the National Ambient Air Quality Standards (NAAQS). FMMD is located within the Metropolitan Baltimore Intrastate Air Quality Control Region for Maryland (40 CFR § 81.28), which serves as the ROI.

4.6.2 National Ambient Air Quality Standards and Attainment Status

In accordance with CAA requirements, the air quality in any given region or area is measured by the concentration of various pollutants in the atmosphere. Measurements of these “criteria pollutants” in ambient air are expressed in units of parts per million (ppm) or in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

The CAA directed the USEPA to develop, implement, and enforce environmental regulations that would ensure clean and healthy ambient air quality. To protect public health and welfare, the USEPA developed NAAQS. NAAQS are numerical concentration-based standards for pollutants that have been determined to impact human health and the environment. The USEPA established both primary and secondary NAAQS under the provisions of the CAA. The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration allowable for the protection of vegetation, crops, and other public resources in addition to maintaining visibility standards. NAAQS are currently established for the criteria air pollutants ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, respirable particulate matter (including coarse particulates equal to or less than 10 microns in diameter [PM_{10}] and fine particulates equal to or less than 2.5 microns in diameter [$\text{PM}_{2.5}$]), and lead. The NAAQS are presented in **Table 2**.

Table 2. Federal and State Ambient Air Quality Standards

NAAQS Pollutant	Primary/Secondary	Averaging Time	Level ⁽¹⁾	Form
Carbon Monoxide	Primary	8-hour	9 ppm	Not to be exceeded more than once per year
		1-hour	35 ppm	
Nitrogen Dioxide	Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
	Primary and secondary	Annual	53 ppb	Annual Mean
Ozone	Primary and secondary	8-hour	70 ppb	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particulate Matter ($\text{PM}_{2.5}$)	Primary	Annual	12 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
	Secondary	Annual	15 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
	Primary and secondary	24-hour	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
Particulate Matter (PM_{10})	Primary and secondary	24-hour	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years

NAAQS Pollutant	Primary/Secondary	Averaging Time	Level ⁽¹⁾	Form
Lead	Primary and secondary	Rolling 3-month average	0.15 µg/m ³	Not to be exceeded
Sulfur Dioxide	Primary	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

1 - Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air (µg/m³)

Ozone is not usually emitted directly into the air but is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants, or “ozone precursors.” These ozone precursors consist primarily of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) that are directly emitted from a wide range of emission sources. For this reason, regulatory agencies limit atmospheric ozone concentrations by controlling VOC pollutants (also identified as reactive organic gases) and NO_x.

When a region or area meets NAAQS for a criteria pollutant, that region or area is classified as in “attainment” for that pollutant. When a region or area fails to meet NAAQS for a criteria pollutant, that region or area is classified as “nonattainment” for that pollutant. In cases of nonattainment, the affected state, territory, or local agency must develop a state implementation plan (SIP) for USEPA review and approval. The SIP is an enforceable plan developed at the state level that lays out a pathway for how the state will comply with air quality standards. If air quality improves in a region that is classified as nonattainment, and the improvement results in the region meeting the criteria for classification as attainment, then that region is reclassified as a “maintenance” area.

4.6.3 Hazardous Air Pollutants

In addition to the ambient air quality standards for criteria pollutants, national standards exist for hazardous air pollutants (HAPs). The National Emission Standards regulate 188 HAPs based on available control technologies. The majority, but not all, HAPs are classified as VOCs (USEPA 2020).

4.6.4 Clean Air Act Conformity

Under the CAA, the General Conformity Rule requires proposed federal agency activities in designated nonattainment or maintenance areas (i.e., attainment areas reclassified from a prior nonattainment designation) to demonstrate conformity with the SIP for attainment of NAAQS. Agencies are required to show that the net change in emissions from a federal proposed action would be below applicable *de minimis* threshold levels. The thresholds are more restrictive as the severity of the nonattainment status of the region increases. MDE has individual SIPs for various pollutants, including nitrogen dioxide, PM_{2.5}, 8-hour ozone, regional haze, and lead.

The General Conformity Rule specifies threshold emissions levels by pollutant to determine the applicability of conformity requirements for a project. The ROI is located within a 12-state region in the urbanized east coast that is designated as an Ozone Transport Region (OTR). The OTR was

established under Section 184 of the CAA and implements more stringent control requirements for pollutants that form ozone, even in areas that meet ozone standards. The ROI has a marginal 8-hour ozone (2015) and moderate 8-hour ozone (2008) nonattainment classification (USEPA 2020). Because ozone formation is driven by other direct emissions, the air quality analyses focus on ozone precursors that include VOCs and NO_x. In accordance with USEPA policy, precursors that form PM_{2.5} (NO_x and sulfur dioxide) have also been evaluated. The applicable emission *de minimis* thresholds established by USEPA are summarized in **Table 3**. Note that *de minimis* thresholds for VOCs and NO_x are listed under the section of the table with the header entitled “Other ozone NAAs inside an OTR.”

Table 3. 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):	
Ozone (VOCs or NO _x):	
Serious NAAs	50
Severe NAAs	25
Extreme NAAs	10
Other ozone NAAs outside OTR:	100
Other ozone NAAs inside an OTR:	
VOC	50
NO _x	100
Carbon Monoxide: All maintenance areas	100
SO ₂ or NO _x : All NAAs	100
PM ₁₀ :	
Moderate NAAs	100
Serious NAAs	70
PM _{2.5} (direct emissions, SO ₂ , NO _x , VOC, and ammonia):	
Moderate NAAs	100
Serious NAAs	70
Lead: All NAAs	25
40 CFR § 93.153(b)(2) – For purposes of paragraph (b) of this section, the following rates apply in maintenance areas:	
Ozone (NO _x), SO ₂ or NO ₃	
All maintenance areas	100
Ozone (VOCs)	
Maintenance areas inside an OTR	50

Criteria Pollutant	Tons/Year
Maintenance areas outside an OTR	100
Carbon monoxide: All maintenance areas	100
PM ₁₀ : All maintenance areas	100
PM _{2.5} (direct) emissions: SO ₂ , NO _x , VOC, and ammonia	100
All maintenance areas	100
Lead: All maintenance areas	25

4.6.5 Climate Change

Greenhouse gases (GHGs) are compounds that contribute to the greenhouse effect. The greenhouse effect is a natural phenomenon where gases trap heat within the surface-troposphere (lowest portion of the earth’s atmosphere) system, causing heating on the earth’s surface. The primary long-lived GHGs directly emitted by human activities are carbon dioxide (CO₂), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The heating effect from these gases is considered the probable cause of the global warming observed over the last 50 years (NASA 2019). Global warming and climate change can affect many aspects of the environment. In the past, the USEPA has recognized potential risks to public health or welfare and signed an endangerment finding regarding GHGs under Section 202(a) of the CAA (Volume 74 *Federal Register* page 66496, December 15, 2009), which found that the current and projected concentrations of the six key well-mixed GHGs—CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.

To estimate global warming potential, all GHGs are expressed relative to a reference gas, CO₂, which is assigned a global warming potential equal to 1. All six GHGs are multiplied by their respective global warming potential and the results are added to calculate the total equivalent emissions of CO₂ (CO₂e). The dominant GHG gas emitted is CO₂, accounting for 81 percent of all GHG emissions as of 2018, the most recent year for which data are available (USEPA 2020).

EO 14008, *Tackling the Climate Crisis at Home and Abroad*, requires climate considerations to be an essential element of U.S. foreign policy and national security. EO 14008 directs the United States to rejoin the Paris Agreement and to implement and build upon the Agreement’s three overarching objectives (a safe global temperature, increased climate resilience, and financial flows aligned with a pathway toward low GHG emissions and climate-resilient development).

4.6.6 Existing Conditions

4.6.6.1 Regional Climate

The climate at FMMD is affected by its proximity to Chesapeake Bay, Delaware Bay, and the Atlantic Ocean. The daily average high temperatures range from 40 degrees Fahrenheit (°F) during January to 87°F during July (NCEI 2020). Daily average low temperatures range from 23°F during January to 67°F during July. The record minimum and maximum temperatures are -7°F and 105°F, respectively. The annual average precipitation amounts to 43 inches and is uniformly distributed throughout the year. The annual average snowfall amounts to 16 inches. At least a trace of precipitation occurs on approximately one-third of the days during the year. Prevailing winds are

from the west-northwest. Southwesterly winds are more frequent during the summer months and northwesterly winds are more frequent during the winter months. The region is frequently under the influence of the Bermuda High Pressure System during the summer months. Air quality problems in the region are typically associated with this summer phenomenon (USACE 2007).

4.6.6.2 Emission Sources – Installation-wide

Current emission sources of criteria pollutants and GHGs at FMMD are associated with staff and visitor vehicles, building HVAC, generators, water heaters, and routine grounds maintenance activities. Stationary sources include boilers, generators, water heaters, 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 construction activities and roadway traffic. Sources of HAP emissions at FMMD include stationary, mobile, and fugitive emissions.

4.6.6.3 Emission Sources – Proposed Action Site

The Proposed Action site is currently wooded and does not generate emissions. Nearby administrative facilities provide stationary sources of emissions, while vehicular traffic on Annapolis Road generates mobile sources of emissions.

4.6.6.4 Sensitive Receptors – Installation-wide

The CEQ NEPA regulations require evaluation of the degree to which a proposed action affects public health (40 CFR § 1508.27). Children, elderly people, and people with illnesses are especially sensitive to the effects of air pollutants; therefore, hospitals, schools, convalescent facilities, and residential areas are considered to be sensitive receptors for air quality impacts, particularly when located within one mile from the emissions source.

FMMD houses religious institutions, residential areas, one ambulatory care center, seven schools, Child and Youth Services Centers, and four Child Development Centers (CDCs). Sensitive receptors within proximity to the Proposed Action site are detailed in **Section 4.6.6.5**.

4.6.6.5 Sensitive Receptors – Proposed Action Site

The Proposed Action site is currently wooded and has no sensitive receptors. The Arundel Forest residential neighborhood is located to the north and northeast of the Proposed Action site. The closest home is located approximately 100 feet from the edge of the Proposed Action site.

4.6.7 Environmental Consequences

4.6.7.1 Evaluation Criteria

Emission thresholds associated with federal CAA conformity requirements are the primary means of assessing the significance of potential air quality impacts associated with implementation of a Proposed Action under NEPA. A formal conformity determination is required for federal actions occurring in nonattainment or maintenance areas when the total direct and indirect stationary and mobile source emissions of nonattainment pollutants or their precursors exceed *de minimis* thresholds. Significant air quality impacts would occur if implementation of an action alternative would directly or indirectly:

- expose people to localized (as opposed to regional) air pollutant concentrations that violate state or federal ambient air quality standards;

- cause a net increase in pollutant or pollutant precursor emissions that exceeds relevant emission significance thresholds (such as CAA conformity *de minimis* levels or the numerical values of major source thresholds for nonattainment pollutants); or
- conflict with adopted air quality management plan policies or programs.

Federal, state, and local air pollution standards and regulations set the criteria for determining the significance of air quality impacts. Impacts would also be potentially significant if estimated emissions would exceed the thresholds that trigger a conformity determination under Section 176(c) of the CAA.

4.6.7.2 Methodology

The environmental impact methodology for air quality impacts presented in this EA is derived from Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention* (February 2020). The Proposed Action is broken down into basic units. For example, a basic development project that consists of clearing and grading an area for construction of a new building could be broken down into grading (SF), building construction (SF and height), architectural coatings (SF), and paving (SF). These data are then input into the Air Force's Air Conformity Applicability Model (ACAM), which models emissions based on the inputs and estimates air emissions for each specific criteria and precursor pollutant, as defined in the NAAQS. The calculated emissions are then compared against the applicable threshold based on the attainment status of the ROI. If the annual net increase in emissions from the project are below the applicable thresholds, then the Proposed Action and Alternatives are not considered significant and would not be subject to any further conformity determination.

ACAM was also used to perform an analysis to estimate GHG emissions and assess the theoretical social cost of GHG (SC GHG) associated with the action. The analysis was performed in accordance with Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*; and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*.

Assumptions of the model, methods, and detailed summary results are provided in Appendix B of this EA.

4.6.7.3 Model Input Assumptions

Numerical inputs for ACAM modeling consist of the following assumptions:

- The total area to be cleared and graded for the project is approximately 36.5 acres.
- The total area to be paved as a roadway, including the access road and perimeter road, is approximately 7.3 acres.
- The total area to be paved as a parking lot is approximately 11.7 acres.
- The building to be constructed is a 238,800-SF, four-story building with a footprint of approximately 116,000 SF.
- Construction will take place over the course of 2 years.

4.6.7.4 Impacts from Construction of the Proposed Action

The Proposed Action would result in short-term, negligible, direct, adverse impacts to air quality primarily due to operating construction equipment and ground-disturbing activities. Under the Proposed Action, potential air quality impacts from construction activities would occur from: 1)

combustion emissions due to the use of fossil-fuel-powered equipment and vehicles and 2) particulate emissions during earth-moving activities.

4.6.7.4.1 Fugitive Dust

Particulates are the main air pollutant of concern from construction projects. Construction activities would generate both coarse and fine particulate emissions, which would temporarily affect local air quality. The number of particulate emissions can be estimated from the amount of ground surface exposed, the type and intensity of activity, soil type and conditions, wind speed, and dust control measures used. To limit these emissions, construction BMPs, generally including water- or chemical-based dust suppression, would be implemented to reduce fugitive dust generation and further prevent it from becoming airborne.

No long-term increases in fugitive dust would be expected to occur because this source of emissions would be limited and would cease upon completion of the Proposed Action. Particulate matter emissions would be moderated through dust reduction measures (e.g., watering of exposed soils) as needed, thereby minimizing the total quantity of fugitive dust emitted during construction activities.

4.6.7.4.2 Off-Road and On-Road Heavy Construction Equipment

Emissions would be generated from diesel-fueled off-road construction vehicles (e.g., backhoes, loaders, graders), on-road heavy-duty vehicles (multi-axle delivery vehicles), light duty vehicles, as well as those from construction workers' personally owned vehicles.

Construction equipment would also emit minor amounts of HAPs. The main sources of HAPs would occur from the combustion of diesel fuel. Construction would be temporary and minor. HAP emissions could be further moderated through implementation of BMPs such as restricting excessive idling, adhering to equipment maintenance programs, using particulate filters, and using ultra-low sulfur diesel fuel if applicable.

4.6.7.5 Impacts from Operation of the Proposed Action

Operation of the Proposed Action would result in long-term, negligible, direct, adverse impacts to air quality. Emissions would be generated from heating and cooling the DC3 building and from vehicles driven by staff and families traveling to and from the DC3.

Table 4 presents a summary of the estimated construction and operational emissions of criteria pollutants and GHGs, represented as CO_{2e}, with implementation of the Proposed Action. The total combined direct and indirect emissions associated with the Proposed Action were estimated on a calendar-year basis for the "worst-case" and "steady-state" (net gain/loss upon action fully implemented) emissions.

It is anticipated that the Proposed Action construction and operation would not cause a perceivable impact to GHG emissions because the increase would not contribute a significant amount to FMMD's overall CO_{2e} emissions. Mitigation efforts to reduce GHGs could be implemented by maintaining emission control technology on construction and operation equipment. FMMD would include GHG emissions from any operational equipment and continue to report GHG emissions in the future as part of the operating permit requirements.

FMMD evaluated the General Conformity Rule for the Proposed Action according to the requirements of 40 CFR Part 93, Subpart B. Based on this analysis, the requirements of this rule

are not applicable because none of the emissions would exceed the General Conformity *de minimis* thresholds. A Record of Non-Applicability for CAA conformity with supporting calculations is presented in **Appendix B**.

Table 4. Estimated Annual Construction and Operational Emissions

Emission Source	Emissions (tons/year)						
	VOC ⁽¹⁾	CO	NO _x ⁽¹⁾	SO ₂ ⁽²⁾	PM ₁₀	PM _{2.5}	CO _{2e}
Proposed Action Emissions - 2024	0.519	5.122	4.373	0.009	95.970	0.163	1,021
Proposed Action Emissions - 2025	3.890	14.103	4.138	0.016	0.165	0.157	2,181
Proposed Action Operation Emissions – 2026 onward	1.435	19.123	3.454	0.019	0.147	0.144	2,770
General Conformity <i>de minimis</i> threshold⁽³⁾	50	NA	100	100	NA	NA	NA
Exceeds <i>de minimis</i> threshold?	No	No	No	No	No	No	NA

1 – Not in attainment in Baltimore, Maryland.
 2 – Not in attainment in Anne Arundel and Baltimore counties.
 3 – *De minimis* thresholds are not applicable to pollutants in areas in attainment with the NAAQS.

4.6.7.6 Social Cost of Greenhouse Gas Emissions (SC GHG)

On a global scale, the potential climate change effects of an action are indirectly addressed and put into context through providing the theoretical SC GHG associated with an action. The SC GHG is an administrative and theoretical tool intended to provide additional context to a GHG’s potential impacts through approximating the long-term monetary damage that may result from GHG emissions effects on climate change.

The SC GHG estimates are derived using the methodology and discount factors in *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under EO 13990* (IWG SC GHG, 2021). **Table 5** lists the monetary quantifications for SC GHG and the theoretical cost per metric ton of the listed GHG. **Table 6** shows the calculated SC GHG for the Proposed Action using the costs listed in **Table 5**.

To provide additional real-world context to the potential climate change impact associate with an action, a relative comparison of SC GHG assessment is also performed. While the SC GHG estimates capture an indirect approximation of global climate damages, the relative comparison of SC GHG assessment provides a better perspective from a regional and global scale. The **Table 7** lists the estimated total SC GHG for both the State of Maryland and the United States, as well as the total for the Proposed Action. The table further expresses the potential emissions from the Proposed Action against the aforementioned totals to provide context of the SC GHG.

Table 5. Estimated Annual Social Cost of Greenhouse Gas Emissions per Metric Ton

IWG Annual SC GHG Cost per Metric Ton (\$/mton [in 2020 \$])			
Year	Carbon Dioxide	Methane	Nitrous Oxide
2024	\$82.00	\$2,200.00	\$29,000.00
2025	\$83.00	\$2,200.00	\$30,000.00
2026 [SS Year]	\$84.00	\$2,300.00	\$30,000.00
2027	\$86.00	\$2,300.00	\$31,000.00
2028	\$87.00	\$2,400.00	\$32,000.00
2029	\$88.00	\$2,500.00	\$32,000.00
2030	\$89.00	\$2,500.00	\$33,000.00
2031	\$91.00	\$2,600.00	\$33,000.00
2032	\$92.00	\$2,600.00	\$34,000.00
2033	\$94.00	\$2,700.00	\$35,000.00
2034	\$95.00	\$2,800.00	\$35,000.00
2035	\$96.00	\$2,800.00	\$36,000.00
2036	\$98.00	\$2,900.00	\$36,000.00

Table 6. Estimated Annual Social Cost of Greenhouse Gas Emissions for the Proposed Action

Action-Related Annual SC GHG (\$K/yr [in 2020 \$])				
Year	Carbone Dioxide	Methane	Nitrous Oxide	Greenhouse Gas
2024	\$83.38	\$0.08	\$0.27	\$83.73
2025	\$181.02	\$0.18	\$0.99	\$182.18
2026 [SS Year]	\$232.67	\$0.24	\$1.45	\$234.36
2027	\$238.21	\$0.24	\$1.50	\$239.95
2028	\$240.98	\$0.25	\$1.54	\$242.78
2029	\$243.75	\$0.26	\$1.54	\$245.56
2030	\$246.52	\$0.26	\$1.59	\$248.37
2031	\$252.06	\$0.27	\$1.59	\$253.92
2032	\$254.83	\$0.27	\$1.64	\$256.74
2033	\$260.37	\$0.28	\$1.69	\$262.34
2034	\$263.14	\$0.29	\$1.69	\$265.12
2035	\$265.91	\$0.29	\$1.74	\$267.94
2036	\$271.45	\$0.30	\$1.74	\$273.49

Table 7. Comparison of Proposed Action SC GHG to State and National Levels

Total SC GHG (\$K [In 2020 \$])						
Parameter		Carbon Dioxide	Methane	Nitrous Oxide	Greenhouse Gas	
2024–2036	State Total	\$67,828,004.75	\$3,518,496.68	\$2,978,623.70	\$74,325,125.14	
2024–2036	U.S. Total	\$5,983,969,118.54	\$840,562,703.10	\$639,301,452.94	\$7,463,833,274.58	
2024–2036	Action	\$3,034.33	\$3.18	\$18.97	\$3,056.49	
Percent of State Totals		0.00447357%	0.00009052%	0.00063684%	0.00411232%	
Percent of U.S. Totals		0.00005071%	0.00000038%	0.00000297%	0.00004095%	

4.6.7.7 No Action

Under the No Action Alternative, no new sources of emissions would be generated at the Proposed Action site. Therefore, the No Action Alternative would result in no changes to air quality conditions at FMMD.

4.7 Noise

4.7.1 Definition of the Resource

Noise is traditionally defined as unwanted sound that interferes with normal activities in a way that reduces the quality of the environment. Magnitudes of sound, whether wanted or unwanted, are usually described by sound pressure. There are two primary types of sound sources that generate noise: stationary and transient. Sounds produced by these sources can be intermittent or continuous. A stationary source is usually associated with a specific land use or site, such as construction activities or the operation of generators. Transient sound sources, such as vehicles and aircraft, move through the area. The human auditory system is sensitive to fluctuations in air pressure above and below the barometric static pressure.

The ROI for noise is the Proposed Action site and the greater FMMD.

The *Noise Control Act of 1972* establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The Act also serves to 1) establish a means for effective coordination of federal research and activities in noise control; 2) authorize the establishment of federal noise emission standards for products distributed in commerce; and 3) provide information to the public with respect to the noise emission and noise reduction characteristics of such products. The Act provided the framework for states and local authorities to establish noise regulations.

Sound pressure levels are quantified in decibels (dB), which is dependent on both frequency and intensity, and is given a level on a logarithmic scale. The way the human ear hears sound intensity is quantified in A-weighted decibel (dBA), which are level “A” weights according to weighting curves. Sound levels for common activities and construction work are presented in **Table 8**. Noise levels and durations from these activities would vary depending on the specific equipment being used, and the impact from this noise on a receptor would depend on the distance between the receptor and the source of the noise. Generally, noise levels decrease by approximately 6 dBA for every doubling of distance for point sources (such as a single piece of construction equipment),

and approximately 3 dBA for every doubling of distance for line sources (such as a stream of motor vehicles on a busy road at a distance).

Table 8. Common Sound Levels and Exposure Conditions

Source	Decibel Level (dBA)	Exposure Concern
Soft Whisper	30	Normal safe level
Quiet Office	40	
Average Home	50	
Conversational Speech	65	
Highway Traffic	75	May affect hearing in some individuals depending on sensitivity, exposure length, and other factors.
Noisy Restaurant	80	
Average Factory and Construction Equipment Vehicles	80–90	
Pneumatic Drill	100	
Automobile Horn	120	
Jet Plane	140	Above 140 decibels may cause pain.
Gunshot Blast	140	

According to the DoD, the Federal Aviation Administration, and the U.S. Department of Housing and Urban Development criteria, residential units and other noise-sensitive land uses are “clearly unacceptable” in areas where the noise exposure exceeds the Day Night Sound Level (DNL) of 75 dB, “normally unacceptable” in regions exposed to noise between the DNL of 65 to 75 dB, and “normally acceptable” in areas exposed to noise where the DNL is 65 dB or less (see **Table 8**). For outdoor activities, USEPA recommends DNL of 55 dB as the sound level below which there is no reason to suspect that the general population would be at risk from any of the effects of noise (USEPA 1974).

4.7.2 Existing Conditions

4.7.2.1 Installation-wide

The noise environment at FMMD is consistent with that of a modern military installation, where noises are generated from vehicular traffic traveling to and from the Installation, building operations, small arms firing ranges, and Installation operations and maintenance equipment. Seasonal noise additions include the normal operation of HVAC systems of buildings and snow removal in the winter. None of these activities produces excessive levels of noise. The noise environment within FMMD is influenced by activities occurring outside of FMMD; these activities include the Baltimore Washington International Airport, which is located approximately 4 miles northeast of FMMD; the Tipton Airport, which is located adjacent to the southwestern boundary of FMMD; and vehicle traffic at urban and suburban areas surrounding FMMD.

4.7.2.2 Proposed Action Site

The Arundel Forest residential neighborhood is located to the north and northeast of the Proposed Action site. The closest home is located approximately 100 feet from the edge of the Proposed

Action site. The location is currently densely wooded and there are currently no human-related noises generated from within the site. Existing noise would be associated with birds and other wildlife in these areas.

Administrative buildings are located in the vicinity of the Proposed Action site and noise results from traffic traveling to and from these facilities.

4.7.3 Environmental Consequences

4.7.3.1 Evaluation Criteria

Noise impacts would be significant if a proposed action created appreciable long-term noise increases in areas of incompatible land use. Additionally, continuous construction noises above 65 dBA may be considered to have a significant adverse effect if audible at residential properties or other sensitive receptors during daytime hours, or results in excessive ground-borne vibration to persons or property.

4.7.3.2 Impacts from Construction of the Proposed Action

Construction activities associated with the Proposed Action would have short-term, minor, direct, adverse impacts on the noise-sensitive receptors in the immediate area of the Proposed Action site, including the homeowners to the northeast and the two schools to the south. These impacts primarily would be due to sounds associated with machinery used to clear vegetation and excavate and grade soils, as well as hand tools and mechanized equipment used to construct the DC3 building and pavements. The administrative facilities to the west would not be considered noise-sensitive receptors and would not be impacted by the construction activities.

Construction activities would take place during daylight hours and during weekdays. 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, the majority of construction equipment would remain within the Proposed Action construction boundary until construction activity for which the equipment was needed is complete. Within the Proposed Action construction area, noise from construction activities would vary depending on the type of equipment being used at the time.

The Proposed Action would be anticipated to generate noise levels during the earth-moving phase (site clearing activities involving pieces of equipment), which could range from 72 to 98 dBA when measured 50 feet from the respective piece of equipment. The impact from this noise on a receptor depends on the distance between the noise source and receptor and any buffers in between. Generally, noise levels decrease by approximately 6 dBA for every doubling of distance for point sources (such as a single piece of construction equipment) and approximately 3 dBA for every doubling of distance for line sources (such as a stream of motor vehicles on a busy road at a distance). The nearest noise receptor is the residential neighborhood on the north side of the Proposed Action site, located approximately 100 feet away; homes closest to the Proposed Action site would receive the greatest impact during construction activities, although this impact would be short term and temporary. The remaining land between the Proposed Action site and the noise-sensitive receptors is densely wooded, which would aid in the reduction of construction noise. The implementation of the Proposed Action over phases would limit the extent of the potential noise impacts during a construction event.

Noise impacts would be further minimized by equipping construction equipment with appropriate sound-muffling devices (i.e., from the original equipment manufacturer or better), and limiting engine idling to less than 5 minutes. Examples of expected construction noise during daytime hours at specified distances are shown in **Table 9**.

Table 9. Estimated Noise Levels from Construction Activities

Distance from Noise Source in feet (meters)	Estimated Noise Level in dBA
50 (15.2)	90–94
100 (30.5)	84–88
150 (45.7)	81–85
200 (61.0)	78–82
400 (121.9)	72–76
800 (243.8)	66–70
1,200 (365.8)	<64

Construction workers would be working in close proximity to construction equipment and could be exposed to noise levels above 90 dBA. This is above the permissible noise exposure level defined by the Occupational Safety and Health Administration (OSHA). These levels would be reduced to permissible levels through feasible administrative or engineering controls and/or the use of BMPs such as the use of hearing protection equipment to ensure compliance with applicable OSHA standards.

4.7.3.3 Impacts from Operation of the Proposed Action

The Proposed Action would result in long-term, direct, negligible, adverse impacts on noise conditions in the immediate area surrounding the Proposed Action site. These noises would be primarily associated with vehicles traveling to and from the DC3 and parking facilities; activities of staff and maintenance personnel; and operating the HVAC unit. Noise levels likely would be comparable to the existing environment along roads in the vicinity. To ensure noises from landscaping equipment and other maintenance activities do not become a nuisance, such equipment would be maintained in good working order. Additionally, maintenance equipment would be operated during daylight working hours.

4.7.3.4 No Action

Under the No Action Alternative, no new noise sources would be generated at the Proposed Action site. Therefore, the No Action Alternative would result in no changes to noise conditions at FMMD.

4.8 Water Resources

4.8.1 Definition of the Resource

Water resources are vulnerable to contamination and quality degradation. For this reason, the *Federal Water Pollution Control Act*, as amended by the CWA, was enacted to protect these valuable, irreplaceable resources. The *Water Pollution Prevention and Control Act* (33 USC § 26), also known as the CWA Amendments, set the national policy objective to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” The CWA provides the

authority to establish water quality standards, control discharges into surface and subsurface waters (including groundwater), develop waste treatment management plans and practices, and issue permits for discharges. A National Pollutant Discharge Elimination System (NPDES) permit under Section 402 of the CWA is required for discharges into navigable waters. USEPA oversees the issuance of NPDES permits at federal facilities as well as water quality regulations (CWA Section 401) for both surface and groundwater. The CWA also regulates the discharge of pollutants seaward for 3 miles.

USEPA defines surface waters as waters of the U.S. (WUS), which are primarily lakes, rivers, estuaries, coastal waters, and wetlands. Jurisdictional waters, including surface water resources, as defined in 33 CFR § 328.3, are regulated under Sections 401 and 404 of the CWA and Section 10 of the *Rivers and Harbors Act*. Man-made features not directly associated with a natural drainage, such as upland stock ponds and irrigation canals, are generally not considered jurisdictional waters. Federal protection of wetlands is also promulgated under EO 11990, *Protection of Wetlands*, the purpose of which is to reduce adverse impacts associated with the destruction or modification of wetlands. This EO directs federal agencies to provide leadership in minimizing the destruction, loss, or degradation of wetlands.

The USACE (33 CFR § 328.3) and the USEPA (40 CFR § 230.3(o)) define wetlands as “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 for life in saturated soil conditions.” Wetlands are a subset of WUS, and those deemed “jurisdictional” are regulated under Section 404 of the CWA. When a federal agency’s proposed action requires a Section 404 wetlands permit, states are provided authority to enforce surface-water-quality standards under Section 401 of the CWA by review of the Proposed Action and permit application. The natural-function benefits of wetlands include flood control, groundwater recharge, maintenance of biodiversity, wildlife habitat, recreational opportunities, and maintenance of water quality.

Floodplains are areas of low-level ground along rivers, stream channels, or coastal waters that provide a broad area to inundate and temporarily store floodwaters. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body. Floodplains are subject to periodic or infrequent inundation due to rain or melting snow. Risk of flooding typically hinges on local topography, the frequency of precipitation events, and the size of the watershed above the floodplain.

The Federal Emergency Management Agency (FEMA) evaluates and maps flood potential, which defines the 100-year (regulatory) floodplain. The 100-year floodplain is the area that has a 1-percent chance of inundation by a flood event in a given year. Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to human health and safety.

EO 11988, *Floodplain Management*, provides guidelines that agencies should follow as part of their decision-making process on projects that have potential impacts to or within the floodplain. This EO requires that federal agencies avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of flood plains and avoid direct and indirect support of floodplain development wherever there is a practicable alternative. EO 13690, “Establishing a Flood Risk Management Standard and Process for Further Soliciting and

Considering Stakeholder Input,” signed in January 2015, established a federal flood risk management standard and a process for further soliciting and considering stakeholder input.

4.8.1.1 Code of Maryland Stormwater Regulations

Provisions of Code of Maryland Regulations 26.17.02.01 (*Maryland Department of the Environment, Water Management, Purpose, and Scope*) require that all jurisdictions in Maryland implement a stormwater management program to control the quality and quantity of stormwater run-off resulting from new development. The regulations state that the primary goals of the state and local stormwater management programs are to maintain after development, as nearly as possible, the predevelopment run-off characteristics, 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.

These regulations for stormwater management apply to the development or redevelopment of land for residential, commercial, industrial, or institutional use, but do not apply to agricultural land management practices. These provisions specify the minimum content of county and municipal ordinances, responsibilities of the administration regarding the review of the county and municipal stormwater management programs, and approval of state-constructed projects for stormwater management by the MDE. These provisions apply to all new development and redevelopment projects that do not have final approval for erosion and sediment control and stormwater management plans by May 4, 2010.

Code of Maryland Regulations (COMAR) Title 26.17.02.05, “When Stormwater Management is Required,” requires developments disturbing over 5,000 SF of land or 100 cubic yards of earth to prepare a stormwater management plan. The Proposed Action would disturb 33 acres (1,437,480 SF) of land; therefore, FMMD would be required to prepare a stormwater management plan.

Current Maryland law and regulations require that *Environmental Site Design (ESD) Process & Computations* (MDE 2010) be used to the maximum extent practicable to control stormwater from new and redevelopment. ESD requires a developer to demonstrate that all reasonable opportunities for meeting stormwater requirements using ESD have been exhausted. This is achieved by using natural areas and landscape features to manage run-off from impervious surfaces, and that structural BMPs have been used only where absolutely necessary. The *Maryland Stormwater Management and Erosion & Sediment Control Guidelines for State and Federal Projects* (MDE 2015) would be implemented to the maximum extent technically feasible for the Proposed Action.

FMMD maintains a SWPPP that provides BMPs for controlling and preventing siltation and contaminants associated with construction and industrial activity sites from reaching area surface waters.

4.8.1.2 Energy Independence and Security Act of 2007 (EISA)

EISA (Public Law 110-140) Section 438 instructs federal agencies to use site planning, design, construction, and maintenance strategies to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the project site with regard to the temperature, rate, volume, and duration of flow for any project with a footprint that exceeds 5,000 SF.

The Proposed Action includes the design, construction, and operation of an approximately 238,000 SF DC3 facility, which exceeds 5,000 SF. However, the COMAR stormwater management regulations are more stringent and therefore supersede Section 438 of EISA.

4.8.1.3 Municipal Separate Storm Sewer System (MS4) Phase II

The FMMD, Environmental Division, Stormwater Program is responsible for ensuring that the Installation meets the MS4 Phase II permit requirements for the treatment of approximately 200 acres of impervious surface. FMMD complies with the MS4 Phase II state and federal permit which obligates minimum control measures for construction and post-construction run-off control.

4.8.2 Existing Conditions

4.8.2.1 Installation-wide

Stormwater run-off at FMMD is conveyed to three primary drainages, with the majority of stormwater run-off carried by the Midway and Franklin branches. All of the natural drainages discharge into the Little Patuxent River, which ultimately drains into Chesapeake Bay.

Run-off from developed areas at FMMD is conveyed through an extensive network of drainpipes and associated drainage structures, supplemented by swales, ditches, other drains, and retention ponds (FMMD 2005). In recent years, FMMD has followed federal and MDE ESD standards for development. Additionally, FMMD has a stormwater management plan and employs several stormwater management initiatives, including low-impact development (LID) technologies, to manage stormwater. Some examples of these include creating rain gardens, replacing concrete storm drains with grass swales, installing tree box filters, and creating stormwater retention ponds.

4.8.2.2 Proposed Action Site

DoD facilities are required to preserve the natural beneficial values of wetlands in carrying out activities in accordance with EO 11990 and DoD Instruction 4715.03, *Natural Resources Conservation Program*. This includes evaluating all alternatives that have the potential to accomplish an action without impacting wetlands and including all practicable measures to reduce harm to wetlands in the Proposed Action if no alternative meets these requirements.

The USACE conducted a wetland delineation of the Proposed Action site in 2022 (FMMD 2023b) to verify the location and legally defensible extent of WUS. The USACE also confirmed existing wetland features from the USFWS National Wetland Inventory and FMMD wetland data. The jurisdiction of wetland and waters evaluated in this USACE delineation have not been verified by the USACE-Regulatory Branch. As part of the delineation mentioned above, the USACE determined that there are three unnamed tributaries in the vicinity of the Proposed Action site that eventually flow into Severn Run, which is located approximately 0.5 mile to the east. These unnamed tributaries (WUS 1 and WUS 2) are located to the north and south, respectively, of the Proposed Action site. The USACE also confirmed that there is an intermittent stream (WUS 3) located on the western edge of the site that drains into WUS 2 and bisects the southwestern portion of the site. The USACE identified two palustrine forested wetlands adjacent to the Proposed Action site. Wetland A (0.10 acre) is located approximately 195 feet to the west of the site, and the boundary of Wetland B (16.1 acres), to the south, ranges from approximately 75 feet at its closest point to 380 feet at its farthest point from the site.

Although the Proposed Action site is not located in a floodplain, according to the FEMA, there is a portion of a 100-year floodplain located approximately 200 feet to the southeast of the site (FEMA 2023).

4.8.3 Environmental Consequences

4.8.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. Adverse impacts to water resources would occur if the Proposed Action resulted in the reduction of water availability or supply to existing users; overdraft of groundwater basins; or exceedance of safe annual yield of water supply sources, adversely affecting water quality, endangering public health by creating or worsening health hazard conditions, or violating established laws or regulations adopted to protect sensitive water resources.

4.8.3.2 Impacts from Construction of the Proposed Action

As previously described, the Proposed Action site generally slopes from the northwest to the southeast with topographic ranges from 218 to 150 feet. The concept design for the DC3 site (USACE 2017) run-off would be conveyed through conduit distribution that would eventually flow to micro-bioretenion facilities and bio-swales. The conceptual design also includes a retention pond to capture excess run-off. With the implementation of permit-related construction BMPs, the Proposed Action's construction activities would have a long-term, minor, direct, adverse impact on water resources.

Surface water and stormwater have the potential to be affected by construction activities due to water contamination or run-off from project materials. The Proposed Action would result in the generation of construction materials and construction of new impervious surfaces such as paved parking areas and walkways. The Proposed Action would clear and grade approximately 33 acres and would add approximately 943,640 SF (116,000 SF for the DC3 facility footprint, 317,988 SF of roadways, 509,652 SF of parking lots and paved walkways) of impervious surfaces to the project area.

Construction activities would require vegetation clearing, filling, and grading. Stormwater within the site could become laden with sediment from these activities. Use of appropriate ESCP and SWPPP BMPs would minimize and control stormwater run-off, erosion, and sedimentation during construction activities. Appropriate erosion and sediment controls, such as synthetic hay bales and silt fencing, would be installed and maintained during construction. Areas disturbed outside of the footprints of the new construction would be reseeded, replanted, and/or re-sodded following construction activities, which would decrease the overall erosion potential of the site and improve soil productivity.

Most of the Proposed Action site would maintain FMMD's voluntary minimum 100-foot riparian forest buffer between the construction site and streams and wetlands; however, a small portion of the proposed construction could directly impact one intermittent stream (WUS 3) and indirectly impact one other intermittent stream (WUS 2), both of which ultimately discharge to the Severn River and Chesapeake Bay. Although the stream runs through the Proposed Action area, the layout is conceptual, and there is the opportunity to adjust project elements to avoid direct impacts once design begins. Construction activities could also indirectly impact Wetland A and Wetland B due to their proximity to the site, connectivity to WUS 2 and WUS 3, and the potential for sediment

and pollutant run-off during construction activities. WUS 1 likely would not be directly or indirectly impacted from the Proposed Action because it is further removed by distance from the project site and has a buffer of mature forest.

Impacts to wetlands and WUS, both direct and indirect, would be avoided to the maximum extent practicable pursuant to EO 11990 and the CWA. If, during project design, it is determined that direct impacts are not avoidable, permitting pursuant to Section 404 and 401 of the CWA, as well as the applicable MDE permits, may be required.

During construction activities, FMMD would require contractors to adhere to all applicable permits and management plans, including Section 401 and 404 permits under the CWA, and to adhere to BMPs, including use of source control measures to prevent pollutants from leaving the project site, reduction/elimination of the introduction of pollutants, protection of sensitive areas, and prevention of precipitation and pollutants from interacting. BMPs would be used to prevent soil erosion and protect surface waters to the greatest extent possible. FMMD would also follow all BMPs and mitigation measures as specified in Section 401 and 404 permits to minimize the risk of soil erosion and sediment discharges. In addition, FMMD would comply with any compensatory mitigation measures specified in the Section 401 and 404 permits, if required.

Because the Proposed Action would disturb more than one acre of ground surface, either a General or Individual Permit for Stormwater Associated with Construction Activity, pursuant to NPDES requirements, would be obtained from MDE by the construction contractor.

4.8.3.3 Impacts from Operation of the Proposed Action

Operation of the Proposed Action would have a long-term, negligible, direct, adverse impact on stormwater conditions due to the increased stormwater volume generated from the new impervious surfaces. To ensure that stormwater quality meets permit requirements, the operational stormwater management systems, including the bioretention swales and the stormwater retention pond, would be routinely maintained by FMMD to ensure these features function according to their design criteria.

The Proposed Action would be designed to operate with stormwater management systems that comply with the MDE Stormwater Design Manual Volumes I & II (MDE 2009) with ESD requirements, the MDE Stormwater Management Guidelines for State and Federal Projects (MDE 2015), MDE's applicable Technical Memorandums, and COMAR stormwater management regulations. In addition, sustainable site design strategies would be used to maximize LEED site credits. The designer of record would be responsible for obtaining stormwater management and erosion and sediment control approval from MDE prior to construction.

Additionally, the Proposed Action meets the definition of "new development" as it relates to MDE's ESD water quality calculations. The stormwater management design would utilize micro-scale practices distributed throughout the site including bioretention and bio-swales. FMMD would implement non-structural practices such as impervious disconnection and sheet flow to conservation areas where grading allows. To comply with these design requirements, the Proposed Action would be designed to provide positive drainage away from the DC3 facility on all sides.

The Proposed Action would employ design and construction strategies that would reduce stormwater run-off.

As discussed in **Section 4.8.1.1**, COMAR Title 26.17.02.05, “When Stormwater Management is Required,” requires developments disturbing over 5,000 SF of land or 100 cubic yards of earth to prepare a stormwater management plan. The Proposed Action would disturb 33 acres (1,437,480 SF) of land; therefore, FMMD would be required to prepare a stormwater management plan. Compliance with COMAR stormwater requirements would be achieved through the implementation of LID technologies, which strive to maintain or restore natural hydrologic functions of a site and achieve natural resource protection. Examples include, but are not limited to, minimizing total site impervious areas, directing building drainage to vegetative buffers, using permeable pavements where practical, and breaking up flow directions from large, paved surfaces.

4.8.3.4 No Action

Under the No Action Alternative, existing conditions at the Proposed Action site would remain unchanged. No new impervious surfaces would be created at the site and stormwater from upgradient off-site areas would continue to follow their existing flow paths. No impacts to wetlands or WUS would occur. Therefore, the No Action Alternative would have no impact on water resources.

4.9 Coastal Zone Management

4.9.1 Definition of the Resource

The CZMA provides assistance to states, in cooperation with federal and local agencies, for developing land and water use programs in the coastal zone. CZMA policy is implemented through state coastal zone management programs. Federal lands are excluded from the jurisdiction of these state programs. However, activities on federal lands are subject to CZMA federal consistency requirements if the federal activity would affect any land or water or natural resource of the coastal zone, including reasonably foreseeable effects. Specifically, in accordance with Section 307 of the CZMA and 15 CFR Part 930 subpart C, federal agency activities affecting a land or water use or natural resource of a state’s coastal zone must be consistent to the maximum extent practicable with the enforceable policies of the state’s coastal management program.

According to 15 CFR § 930.41, the reviewing state has 60 days from receipt of the Consistency Determination to “concur” or “object.” States are not required to concur with a Negative Determination. However, if a response from the state is not received by the 60th day of submittal (unless a one-time extension was requested), the federal agency may presume state agency concurrence. Additionally, 15 CFR § 930.43 provides that should a state object to a Consistency Determination, the state and federal agencies should attempt to resolve their differences. However, if no resolution can be met, the federal agency may proceed if federal law prohibits the agency from being fully consistent or if that federal agency has concluded that its proposed action is fully consistent with the enforceable policies of the management program, though the state agency objects. If a federal agency decides to proceed with a federal agency activity that is objected to by a state agency, or to follow an alternative suggested by the state agency, the federal agency shall notify the state agency of its decision to proceed before the project commences.

4.9.2 Existing Conditions

4.9.2.1 Installation-wide and Proposed Action Site

All of FMMD, including the Proposed Action site, is located within the Maryland Coastal Zone and is therefore subject to regulations pursuant to the Maryland Coastal Zone Management

Program (CZMP). This includes the Chesapeake Bay, into which water from streams and their tributaries on FMMD flow. MDE regulates activities that are proposed within the CZMP through federal consistency requirements. Under these requirements, applicants for federal and state licenses or permits must certify that their proposed activity would be conducted in a manner consistent with the state's CZMP. If a state permit is not required for a project, MDE has the authority to "concur" or "object" to the federal Consistency Determination.

4.9.3 Environmental Consequences

4.9.3.1 Evaluation Criteria

Factors considered in evaluating coastal zone management impacts include the potential for the Proposed Action to be inconsistent with the federal and state enforceable policies. The Proposed Action would be considered to have a significant adverse effect on the coastal zone if it were inconsistent with enforceable policies under the Maryland CZMP required by Section 307 of the CZMA, and if permits and mitigation, as required for construction within the coastal zone, were not obtained.

As part of compliance with the federal CZMA, Maryland CZMP, and Maryland *Chesapeake Bay Critical Area Protection Act*, design elements of the DC3 facility and associated infrastructure would consider the location of coastal zones and critical areas and avoid these areas or minimize adverse impacts wherever possible.

4.9.3.2 Impacts from Construction and Operation of the Proposed Action

Construction of the Proposed Action would have long-term, direct, adverse impacts on resources of the Maryland Coastal Zone due to construction activities that could directly impact one intermittent stream (WUS 3) and indirectly impact one other intermittent stream (WUS 2), both of which ultimately discharge to the Severn River and Chesapeake Bay. Although the streams run through the Proposed Action area, the layout is conceptual, and there is the opportunity to adjust project elements to avoid direct impacts once design begins. Construction activities also could indirectly impact Wetland A and Wetland B due to their proximity to the site, connectivity to WUS 2 and WUS 3, and the potential for sediment and pollutant run-off during construction activities. WUS 1 likely would not be directly or indirectly impacted by the Proposed Action because it is further removed by distance from the project site and has a buffer of mature forest. Operational activities may have minor, adverse impacts; however, the increase in surface area would be accounted for during predevelopment hydrology studies per Maryland stormwater regulations.

Impacts to wetlands and WUS, both direct and indirect, would be avoided to the maximum extent practicable pursuant to EO 11990 and the CWA. If, during project design, it is determined that direct impacts are not avoidable, permitting pursuant to Section 404 and 401 of the CWA, as well as the applicable MDE permits, may be required.

Both construction and operation of the Proposed Action are expected to be consistent with Maryland's enforceable CZMA policies. FMMD would coordinate with MDE during design, and permits would be obtained for any area that would impact wetlands and streams. An ESCP and a SWPPP, including measures to protect coastal zone resources, would be prepared and submitted to MDE for approval prior to construction; no construction would begin until all compliance requirements are met.

In accordance with Maryland CZMP guidelines and the 2013 Memorandum of Understanding (MOU) between Maryland and the DoD concerning federal consistency requirements of the CZMA, this EA includes a Coastal Zone Consistency Determination (**Appendix C**) for review and concurrence by the Maryland CZMP. As described in **Appendix C**, the Proposed Action would be designed and constructed in accordance with both the FMMD Integrated Natural Resources Management Plan (INRMP) and the relevant Maryland CZMA policies. Review and concurrence with the Consistency Determination from MDE would be requested prior to initiating the Proposed Action. This would ensure that construction of the Proposed Action would be consistent with the Maryland CZMP. Therefore, it would be expected that implementation of the Proposed Action would have no adverse or beneficial impact on coastal zone resources.

4.9.3.3 No Action

Under the No Action Alternative, the Proposed Action would not be implemented. Existing conditions at the Proposed Action site would remain unchanged. Therefore, the No Action Alternative would have no impact on coastal zone resources.

4.10 Biological Resources

4.10.1 Definition of the Resource

Biological resources include native or naturalized plants and animals and the habitats (e.g., wetlands, forests, and grasslands) in which they live. Protected biological resources include plant and animal species listed by the State of Maryland as rare, threatened, or endangered or by the USFWS as threatened or endangered. Species of special concern are not afforded the same level of protection, but their presence is taken into consideration by resource agency biologists involved in reviewing projects and permit applications.

The ROI for biological resources is the Proposed Action site.

4.10.1.1 Endangered Species Act

The ESA established protection for threatened and endangered species and the ecosystems upon which they depend. Sensitive and protected biological resources include plant and animal species listed as threatened, endangered, or special status by USFWS. The ESA also allows the designation of geographic areas as critical habitat for threatened or endangered species. Under the ESA, an “endangered species” is defined as any species in danger of extinction throughout all, or a large portion, of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. USFWS maintains a list of candidate species being evaluated for possible listing as threatened or endangered under the ESA. Although candidate species receive no statutory protection under the ESA, USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and may warrant protection in the future under the ESA.

The ESA also provides for recovery plans to be developed describing the steps needed to restore a species population. Critical habitat for federally listed species includes “geographic areas on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection.” Critical habitat can include areas not occupied by the species at the time of the listing but that are essential to the conservation of the species. The *Sikes Act* provides for cooperation by the Department of the

Interior and DoD with state agencies in planning, development, and maintenance of fish and wildlife resources on military reservations throughout the U.S.

4.10.1.2 Migratory Bird Treaty Act

The MBTA makes it unlawful for anyone to take migratory birds or their parts, nests, or eggs unless permitted to do so by regulations. Per the MBTA, “take” is defined as “pursue, hunt, shoot, wound, kill, trap, capture, or collect” ([50 CFR § 10.12](#)). Birds protected under the MBTA include nearly all species in the U.S. except for non-native/human-introduced species and some game birds.

EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, requires all federal agencies undertaking activities that may negatively impact migratory birds to follow a prescribed set of actions to further implement MBTA. EO 13186 directs federal agencies to develop an MOU with USFWS that promotes the conservation of migratory birds.

The *National Defense Authorization Act for Fiscal Year 2003* provided the Secretary of the Interior the authority to prescribe regulations to exempt the armed forces from the incidental take of migratory birds during authorized military readiness activities. Congress defined military readiness activities as all training and operations of the U.S. Armed Forces that relate to combat and the adequate and realistic testing of military equipment, vehicles, weapons, and sensors for proper operation and suitability for combat use. Further, in October of 2012, the “Authorization of Take Incidental to Military Readiness Activities” was published in the *Federal Register* ([50 CFR § 21.15](#)), authorizing incidental take during military readiness activities unless such activities may result in significant adverse effects on a population of a migratory bird species.

In December 2017, the U.S. Department of the Interior issued M-Opinion 37050, which concluded that the take of migratory birds from an activity is not prohibited by the MBTA when the purpose of that activity is not the take of a migratory birds, eggs, or nests. On August 11, 2020, the U.S. District Court, Southern District of New York, vacated M-Opinion 37050. Thus, incidental take of migratory birds is again prohibited. The interpretation of the MBTA remains in flux, and additional court proceedings are expected.

4.10.1.3 Bald and Golden Eagle Protection Act (BGEPA)

The BGEPA prohibits actions to “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” Further, the BGEPA defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb,” and “disturb” is defined as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, injury to an eagle, a decrease in productivity by substantially interfering with the eagle’s normal breeding, feeding or sheltering behavior, or nest abandonment by substantially interfering with the eagle’s normal breeding, feeding, or sheltering behavior.” The BGEPA also prohibits activities around an active or inactive nest site that could result in disturbance to returning eagles.

4.10.1.4 Aquatic Resources

Aquatic resources are habitats that contain either permanent or sufficient temporary water to support plant or wildlife species that require water or hydric soils for at least part of their life cycle.

4.10.1.5 Invasive Species

Invasive species are non-native species in an ecosystem whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health. EO 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, requires federal agencies to identify actions that may affect invasive species; use relevant programs to prevent introductions of invasive species; detect, respond, and control such species; monitor invasive species populations; and provide for restoration of native species. Invasive species damage native habitat and impede management by outcompeting native species.

4.10.2 Existing Conditions

4.10.2.1 Vegetation – Installation-wide

It is the intent of FMMD to maintain a campus-like environment and conserve forested areas to the maximum extent practical, in accordance with the Maryland FCA, while continuing to sustain and support current and future missions. This includes managing the FMMD forest conservation program in accordance with the 2013 MOU between the State of Maryland and the DoD concerning federal consistency requirements of the CZMA.

Development and construction projects are required to follow the current Maryland FCA and FMMD Tree Management Policy. FMMD requires that the equivalent of 20 percent of a project area be forested. All projects of 40,000 SF or larger must comply with the FMMD policy. Site developments must preserve or establish 20 percent forest cover, regardless of whether the site was forested before the construction.

FMMD participates in the Army's conservation reimbursable and fee collection program for forestry. This program exists to provide ecosystem-level management that supports and enhances the land's ability to support each installation's respective military mission, while simultaneously obtaining ecologically responsible results that satisfy all federally mandated requirements for natural resources. Program revenues are generated through the sale of forest products. The fair market value of all forest products removed due to the Proposed Action would be deposited into the Army's Reimbursable Forestry Account to be utilized for natural resource activities and ecosystem management at Army installations.

Vegetative cover at FMMD consists of forestland, open land/meadow, and developed areas with maintained turf and street trees. These components constitute FMMD's green infrastructure. Maryland's green infrastructure was mapped into hubs (habitats) and corridors (linkages) using satellite imagery, road and stream locations, biological data, and other information. Hubs are typically unfragmented forest areas hundreds or thousands of acres in size and are vital to maintaining the state's ecological health. They provide habitat for native plants and animals, protect water quality and soils, regulate climate, and perform other critical functions. Corridors are linear remnants of natural land such as stream valleys and mountain ridges that allow animals, seeds, and pollen to move from one area to another. They also protect the health of streams and wetlands by maintaining adjacent vegetation. Preserving corridors between the remaining blocks of hubs would ensure the long-term survival and continued diversity of plants, wildlife, and environment in the state. FMMD maintains both green infrastructure hubs and corridors.

Less than one-third, or approximately 1,500 acres, of the FMMD property is forested. Many native forests were cleared prior to the formation of FMMD for agriculture. Larger remaining forested tracts are located toward the perimeter of FMMD. Many of these larger tracts are connected by

riparian forest corridors. Larger tracts are around 70 years old, but some stands predate the Installation. Development at FMMD has resulted in forest fragments and recently reforested areas.

As described in the INRMP, extensive development has resulted in the retention of a few areas of native vegetation at FMMD, most of which are associated with stream corridors (FMMD 2004). The largest wooded area at FMMD is in the southwestern corner of the Installation and is associated with the Little Patuxent River. The dominant vegetation in this area is red maple (*Acer rubrum*), sweet gum (*Liquidambar styraciflua*), black gum (*Nyssa sylvatica*), northern arrowwood (*Viburnum recognitum*), Japanese honeysuckle (*Lonicera japonica*), common greenbriar (*Smilax rotundifolia*), and poison ivy (*Toxicodendron radicans*).

As stated in the INRMP, smaller wooded areas are scattered throughout FMMD in the uplands (FMMD 2004). They are dominated by white, red, and chestnut oak (*Quercus alba*, *Q. rubra*, *Q. prinus*); mockernut and pignut hickory (*Carya tomentosa* and *C. glabra*); flowering dogwood (*Cornus florida*); blueberry (*Vaccinium corymbosum*); greenbriar; loblolly and pitch pine (*Pinus taeda* and *P. rigida*); and poison ivy.

Most of the developed portions of FMMD have been landscaped using a combination of turf grasses interspersed with native and exotic trees and shrubs, including elm (*Ulmus* sp.), maple (*Acer* sp.), flowering cherry (*Prunus* sp.), black willow (*Salix nigra*), flowering dogwood, and an assortment of holly cultivars (*Ilex* sp.) (FMMD 2004).

4.10.2.2 Vegetation – Proposed Action Site

The USACE conducted a forest stand delineation of the Proposed Action site in March 2023 to inventory the vegetation species and their ecological value (USACE 2023). The Proposed Action site lies within the Atlantic Coastal Plain section of the Oak-Hickory Forest region. The dominant vegetative species within the forested woodlands include various deciduous hardwoods and pines. The proposed site is surrounded by development and characterized by mature forest canopy with moderate diversity throughout the understory depending on the forest stand.

Tree species identified during this delineation included white oak (*Quercus alba*), black oak (*Quercus velutina*), red oak (*Quercus rubra*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), Virginia pine (*Pinus virginiana*), sassafras (*Sassafras albidum*), bitternut hickory (*Carya cordiformis*), flowering dogwood (*Cornus florida*), black locust (*Robinia pseudoacacia*), holly (*Ilex*), black gum (*Nyssa sylvatica*), huckleberry (*Vaccinium membranaceum*), chestnut oak, loblolly pine (*Pinus taeda*), mockernut hickory (*Carya tomentosa*), willow oak (*Quercus phellos*), southern red oak (*Quercus falcata*), tulip poplar (*Liriodendron tulipifera*), river birch (*Betula nigra*), American persimmon (*Diospyros kaki*), black cherry (*Prunus serotina*), and American beech (*Fagus grandifolia*).

Some of the common herbaceous species identified during this delineation included hay-scented fern (*Dennstaedtia punctilobula*), common greenbriar (*Smilax rotundifolia*), Linden viburnum (*Viburnum dilatatum*), blueberry (*Vaccinium* sp.), poison ivy (*Toxicodendron* sp.), Christmas fern (*Polystichum acrostichoides*), partridge pea (*Chamaecrista fasciculata*), New York fern (*Thelypteris noveboracensis*), Virginia creeper (*Parthenocissus quinquefolia*), club moss (*Lycopodiopsida*), field goldenrod (*Solidago nemoralis*), buttonbush (*Cephalanthus occidentalis*), citronella horse balm (*Collinsonia canadensis*), and huckleberry (*Gaylussacia*).

Some of the invasive species identified during this delineation included Japanese stiltgrass (*Microstegium vimineum*), Japanese barberry (*Berberis thunbergii*), Oriental bittersweet

(*Celastrus orbiculatus*), mile-a-minute (*Persicaria perfoliata*), lady's thumb (*Persicaria maculosa*), Asiatic dayflower (*Commelina communis*), and common privet (*Ligustrum vulgare*).

4.10.2.3 Common Terrestrial Wildlife – Installation-wide

In 2013, Environmental Systems Analysis, Inc. conducted a study for fauna and wildlife populations, including breeding amphibians and a Burba Lake fisheries study (ESA 2014). Most of the observed animal species are common to Anne Arundel County and the Central Maryland area. During the fauna study, a total of 13 bird and 11 mammal species were identified (**Table 10**). During the amphibian breeding study, 11 reptile and amphibian species were identified (**Table 11**). The species observed during the 2013 survey were very similar to those found during USACE's 2009 flora and fauna survey (USACE 2009).

4.10.2.4 Common Terrestrial Wildlife – Proposed Action Site

A survey for wildlife at the Proposed Action site has not been completed. Based on the vegetation composition at the Proposed Action site, the site is likely to provide suitable habitat for the common wildlife species found throughout FMMD.

4.10.2.5 Rare, Threatened, or Endangered Species – Installation-wide

Eight species listed as either endangered, threatened or candidate species under the ESA have the potential to occur at FMMD; of these, seven species have a known current or historic presence on the Installation (**Table 12**). Two endangered species (northern long-eared bat [NLEB] (*Myotis septentrionalis*) and Indiana bat (*Myotis sodalists*) and one candidate species, tricolored bat (*Perimyotis subflavus*), have been acoustically detected on FMMD. No hibernaculum or summer roost trees have been identified on FMMD or in Anne Arundel County (USACE 2023). A third endangered species, rusty patch bumblebee (*Bombus affinis*), was historically present but is locally extirpated.

A rare, threatened, and endangered plant species survey was performed at FMMD in 2013 by EEE Consulting, Inc. (EEE Consulting, Inc. 2014). No federally listed plants were documented on FMMD.

4.10.2.6 Rare, Threatened, or Endangered Species – Proposed Action Site

A survey for most of the federally listed species at the Proposed Action site has not been completed; however, FMMD did conduct bat surveys of the Installation in 2017 and 2018 (FMMD 2018a). A majority of the acoustic sampling and net capturing sites for bat species were conducted within the Proposed Action site and nearby forest stands. The acoustic sampling detected 10 species of bats including NLEB, Indiana bat, little brown bat, tricolored bat, big brown bat, eastern red bat, and silver-haired bat. The federally endangered northern long-eared bats and Indiana bats were acoustically recorded but not caught during netting. The tricolored bat, a candidate species, was also acoustically recorded but not caught during netting. Although either species cannot be definitively discounted, the failure to net either species suggests a relatively low chance of maternity colony presence. However, the delineation indicated that other studies in the region identified NLEB using forested habitats in the area. There is a known presence of the little brown bat, a candidate species under the ESA, within forest stands in the vicinity of the Proposed Action site. Because the site is undeveloped and contains forest and wetland habitats, suitable habitat for rare, threatened, or endangered species may be present.

Table 10. Mammals and Birds Present at FMMD in 2013

Scientific Name	Common Name
<i>Odocoileus virginianus</i>	White-tailed deer
<i>Procyon lotor</i>	Raccoon
<i>Sciurus carolinensis</i>	Eastern gray squirrel
<i>Urocyon cinereoargenteus</i>	Gray fox
<i>Didelphimorphia</i>	Opossum
<i>Lepus curpaeums</i>	Eastern cottontail
<i>Zenaida macroura</i>	Mourning dove
<i>Vulpes vulpes</i>	Red fox
<i>Anas platyrhynchos</i>	Mallard
<i>Butorides virescens</i>	Green heron
<i>Cardinalis cardinalis</i>	Northern cardinal
<i>Agelaius phoeniceus</i>	Redwing blackbird
<i>Felis catus</i>	Domestic cat
<i>Cyanocitta cristata</i>	Eastern blue jay
<i>Quiscalus quiscula</i>	Common grackle
<i>Passeridae</i> sp.	Sparrow
<i>Fringillidae</i> sp.	Finch
<i>Branta canadensis</i>	Canada goose
<i>Corvus brachyrhynchos</i>	American crow
<i>Marmota monax</i>	Groundhog
<i>Dumetella carolinensis</i>	Gray catbird
<i>Turdus migratorius</i>	American robin

Table 11. Reptiles and Amphibians Present at FMMD in 2013

Scientific Name	Common Name
<i>Pseudacris crucifer</i>	Spring peeper (frog)
<i>Lithobates clamitans</i>	Green frog
<i>Lithobates sylvatica</i>	Wood frog
<i>Acris crepitans</i>	Eastern cricket frog
<i>Lithobates sphenoccephalus</i>	Southern leopard frog
<i>Anaxyrus americanus</i>	American toad
<i>Ambystoma opacum</i>	Marbled salamander
<i>Ambystoma maculatum</i>	Spotted salamander
<i>Terrapene carolina</i>	Eastern box turtle
<i>Chelydra serpentina</i>	Common snapping turtle
<i>Plestiodon fasciatus</i>	Common five-lined skink

Table 12. Federally Listed Species that Occur or May Occur on FMMD

Common Name	Scientific Name	Federal Listing	Maryland State Listing	Installation Presence
Northern long-eared bat (NLEB)	<i>Myotis septentrionalis</i>	Endangered	Endangered – S1	Present, but transient (Acoustic only)
Indiana bat	<i>Myotis sodalis</i>	Endangered	Endangered – S1	Present, but transient (Acoustic only)
Tricolored bat	<i>Perimyotis subflavus</i>	Under Review (Candidate)	Endangered – S1	Present, but transient (Acoustic only)
Wood turtle	<i>Glyptemys insculpta</i>	Under Review (Candidate)	Vulnerable – S3	Known presence ¹
Spotted turtle	<i>Clemmys guttata</i>	Under Review (Candidate)	Vulnerable – S3	None known
Rusty patch bumble bee	<i>Bombus affinis</i>	Endangered	SH	Historic, locally extirpated
Little brown bat	<i>Myotis lucifugus</i>	Under Review (Candidate)	Critically imperiled – S1	Known presence
Monarch	<i>Danaus plexippus</i>	Under Review (Candidate)	Secure – S5B	Present

1 – A single individual was found near Burba Lake that may have been a pet release. Surveys are ongoing to determine if a population exists at FMMD.

4.10.2.7 State-Listed Wildlife and Plant Species – Installation-wide

State-listed species are not protected under the ESA; however, whenever feasible, FMMD cooperates with state authorities in an effort to identify and conserve state-listed species.

The state-listed wildlife species that have been detected on FMMD include the glassy darter (*Etheostoma vitreum*), American brook lamprey (*Lethenteron appendix*), coastal plain swamp sparrow (*Melospiza georgiana nigrescens*) and northern waterthrush (*Parkesia noveboracensis*). Findings from a 2013 study for wildlife and plant populations (ESA 2014) provided updates on the glassy darter (*Etheostoma vitreum*). The glassy darter was observed and documented in previous fish surveys conducted on FMMD, from 1992 through 2004. The glassy darter has been identified as occurring at FMMD, within the 9500 Tract of the Little Patuxent River, and immediately downstream and off site of FMMD.

Three state-listed plant species have been detected on FMMD. These include blunt-lobe grapefern (*Sceptridium oneidense*), Torrey's rush (*Juncus torreyi*), and partridge pea (*Chamaecrista fasciculata* var. *macrosperma*), and one state-wide extirpated species, spotted Joe-pye-weed (*Eutrochium maculatum*). During the 2013 rare, threatened, and endangered plant species survey, two of the previously identified state-listed rare, threatened, or endangered species were found: American chestnut (*Castanea dentata*) and dwarf azalea (*Rhododendron atlanticum*) (EEE Consulting, Inc. 2014). One Maryland Watch List plant, pearly everlasting (*Anaphalis margaritacea*), was found within the Firing Range Powerline and the Range Road Corridor; and one Maryland State Rare/Watch List plant, tall swamp marigold (*Bidens coronata*), was found within the Firing Range Powerline.

4.10.2.8 State-Listed Wildlife and Plant Species – Proposed Action Site

A survey for state-listed wildlife and plant species at the Proposed Action site has not been completed. Based on the undeveloped nature of the site, there could be suitable habitat for state-listed wildlife and plant species found at FMMD.

4.10.2.9 Aquatic Habitat – Installation-wide

Water bodies that flow through FMMD provide habitat for several aquatic organisms (USACE 2007). Over two dozen species of fish are known to occur on FMMD, including, but not limited to, the creek chubsucker (*Erimyzon uratus*), eastern mudminnow (*Umbra pygmaea*), tessellated darter (*Etheostoma olmstedi*), American brook lamprey (*Lampetra appendix*), American eel (*Anguilla rostrata*), smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), glassy darter (*Etheostoma vitreum*), redbreast sunfish (*Lepomis uratus*), bluegill (*Lepomis macrochirus*), and pumpkinseed (*Lepomis gibbosus*).

A total of five species and 422 fish were collected as part of the 2013 Burba Lake survey effort (ESA 2014). The most abundant species collected was bluegill (*Lepomis macrochirus*), followed by green sunfish (*Lepomis cyanells*), red ear sunfish (*L. microlophus*), mosquito fish (*Gambusia affinis*), and largemouth bass (*Micropterus salmoides*), in descending order of abundance.

4.10.2.10 Aquatic Habitat – Proposed Action Site

A survey for aquatic wildlife and plant species at the Proposed Action site has not been completed. Based on the fact that the site is undeveloped and contains forest and wetland habitats, there could be suitable habitat for semi-aquatic species such as the wood turtle (*Glyptemys insculpta*) (FMMD 2018b).

4.10.3 Environmental Consequences

Factors considered in the analysis of potential impacts to biological resources include any anticipated adverse impacts to fish and wildlife as well as to habitat and compliance with FMMD's obligations as outlined in both the FMMD INRMP and Maryland FCA and FMMD Tree Management Policy.

4.10.3.1 Evaluation Criteria

Substantial impacts to vegetation would occur if a proposed action 1) would result in a permanent net loss of habitat at a landscape scale or 2) could result in a long-term loss or impairment of a substantial portion of local habitat on which native species depend.

Substantial impacts to terrestrial wildlife resources would occur if a proposed action 1) would result in a permanent net loss of habitat at a landscape scale or 2) could result in a long-term loss or impairment of a substantial portion of local habitat on which native species depend.

Significant adverse impacts to rare, threatened, and endangered species would occur if a proposed action would 1) jeopardize the continued existence of any federal listed threatened or endangered species or result in destruction of critical habitat or 2) eliminate a sensitive habitat such as breeding areas, habitats of local significance, or rare or state-designated significant natural communities needed for the survival of a species.

4.10.3.2 Impacts from Construction of the Proposed Action

4.10.3.2.1 Vegetation

Construction of the Proposed Action would result in permanent, direct, adverse impacts on vegetation, caused by clearing 33 acres of mature forest.

The Proposed Action would be designed to comply, to the maximum extent practicable, with the Maryland FCA and the FMMD FCA and Tree Management Policy with the goal of retaining at least 20 percent of the forested area within the limits of disturbance.

Forest conservation requirements for the Proposed Action would be met utilizing a combination of on-site plantings in and around the built environment to the maximum allowable extent practicable with the approval of the FMMD DPW Environmental Division. Where on-site plantings cannot meet forest conservation requirements, then off-site forest conservation area plantings would be planted at one tree per 400 SF with at least 50 percent of those trees having the potential of attaining a 2-inch or greater diameter at breast height within 7 years. Forestry practices that cannot feasibly be performed within the Proposed Action site would be performed on other designated land areas within FMMD. The design team would be required to work with the FMMD DPW Environmental Division to identify potential off-site forest conservation areas.

The landscape design for the Proposed Action would comply with the Unified Facilities Criteria (UFC) 3-201-02, *Landscape Architecture*, and the UFC 4-020-02, *DoD Security Engineering Facilities Design Manual*. Proposed plantings and planting locations consider applicable Antiterrorism/Force Protection guidelines for placement of plant material, referencing UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*, and UFC 4-010-02, *DoD Minimum Antiterrorism Standoff Distances for Buildings*.

Additionally, the landscape design would comply with MDE requirements, including species selections utilized in the stormwater management facilities and permanent and temporary

vegetative stabilization to address erosion and sediment control. Special care would be given in the selection and location of hardy, native, and adaptive species that can survive drought and the increasing uncertainties of climate change with minimal to no maintenance, meeting the sustainability requirements of the DoD mission. Specifically, the use of sod would be restricted to only those areas where quick turfgrass establishment is critical to a disciplined aesthetic and efficient function of the BMPs. Native seed mixtures would be proposed for areas where aesthetics and maintenance are a lower priority.

In their response to FMMD's request for initial coordination, USFWS provided recommendations that the installation can replace some habitat value through native species plantings, bioswales, and pollinator-friendly plantings, noting that in urban and suburban landscapes, military installations can provide essential habitat for species, whether they are full-time residents or using the land as a stop-over on their migratory journeys.

4.10.3.2.2 Wildlife

The Proposed Action would result in permanent, direct, adverse impacts to wildlife species inhabiting the Proposed Action site as a result of the permanent clearing of 33 acres of mature forest, which serves as habitat for wildlife. Short-term, minor, direct, adverse impacts to wildlife would also be anticipated to occur as a result of the disruptive presence and noise associated with construction equipment at the site.

Wildlife species that currently utilize the Proposed Action site on a transient basis would be anticipated to utilize other available habitat at FMMD, including the larger tracts of forested land that are present to the north, west, and south of the Proposed Action site. As a result, tree clearing at the Proposed Action site would be minor in scale compared to the available forest habitat on other areas of FMMD; therefore, the clearing would not be anticipated to result in a permanent net loss of habitat at a landscape scale. Further, it is anticipated that reforestation under the current Maryland FCA and FMMD Tree Management Policy would contribute to the local forested habitat that would be available to wildlife species. Therefore, impairment to a substantial portion of local wildlife habitat would not be anticipated. In order to minimize potential direct impacts to wildlife and bird species, FMMD would avoid clearing trees in the project area during the spring and summer months and would preserve or replace as many trees as possible in other areas. Native plant species, bio-swales, and pollinator-friendly plantings would be included as part of design to provide critical refugia to full-time and transient species in the area. In addition, the DC3 facilities would include bird-friendly windows and would minimize nighttime lighting as part of design to reduce the potential to confuse, harm, or kill bird species in the area.

USFWS recommended against clearing trees during the spring and summer to avoid direct impacts to reproductive bats and birds, and stated the development and maintenance of larger forest stands could provide summer habitat (critical for reproduction) and/or migration corridors for any number of bats and remaining bird communities.

USFWS also provided recommendations for building new structures with bird-friendly windows and minimum nighttime lighting to reduce or eliminate negative impacts of new construction on birds. USFWS notes that bird collisions with structures kill almost 1 billion birds a year, and that nighttime lighting can confuse and harm or kill migrating birds.

4.10.3.2.3 Rare, Threatened, or Endangered Species

The Proposed Action would result in potential direct, adverse impacts to the NLEB and Indiana bat, which are listed as endangered, and to the tricolored bat and little brown bat, which are candidate species, as a result of the permanent clearing of 33 acres of mature forest within the Proposed Action site. The site's mature forest is considered potential summer roost habitat for these bat species, which have been detected acoustically in the area. The Monarch butterfly is not likely to occur within the mature forest and prefers more open grassy areas and meadows. In order to minimize potential direct impacts to NLEB, Indiana bat, tricolored bat, and little brown bat, FMMD would avoid clearing trees in the project area during the spring and summer months and would preserve or replace as many trees as possible in other areas. Native plant species, bio-swales, and pollinator-friendly plantings would be included as part of design to provide critical refugia to full-time and transient species in the area, such as the Monarch butterfly.

4.10.3.2.4 State-Listed Wildlife and Plant Species

State-listed wildlife and plant species have been documented on FMMD. No surveys for state-listed wildlife and plant species have been completed at the Proposed Action site. However, state-listed wildlife and plant species could occur within the Proposed Action site. In response to FMMD's request for initial coordination, the Maryland Department of Natural Resources (MDNR) stated the project site is within an area that contains habitat for the NLEB, listed as endangered in the State of Maryland.

MDNR stated that, "In order to reduce loss of summer occupancy habitat for this species, we recommend that forest clearing and permanent forest loss be minimized to the greatest extent possible. To compensate for any permanent forest loss on the project site, forest conservation/reforestation should be pursued. As required by the Forest Conservation Act, the priority for reforestation should be the first two options provided by the Act: (1) establishing or enhancing forest buffers adjacent to intermittent and perennial streams and within the 100-year floodplains; (2) establishing or increasing existing forested corridors to connect existing forests within or adjacent to the site to facilitate wildlife movement. Also, there should be no forest removal/clearing (inclusive of trimming branches >3 inches in diameter) during the summer time-of-year when this species is utilizing the forest. That time-of-year is considered to be May 1 – July 31 of any given year" in MD.

MDNR also noted that the forest within the Proposed Action area may contain Forest Interior Dwelling Species habitat and that the key to maintaining suitable breeding habitat for these species is protection of extensive, unbroken forested areas throughout the region.

4.10.3.2.5 Aquatic Habitat

The Proposed Action could result in potential direct, adverse impacts to aquatic habitats in WUS 3 and indirect adverse impacts to WUS 2 and Wetlands A and B. These aquatic and adjacent forested areas are potential habitats for the wood turtle. Most of the Proposed Action site would maintain FMMD's voluntary minimum 100-foot riparian forest buffer between the construction site and streams and wetlands; however, a small portion of the proposed construction could directly impact one intermittent stream (WUS 3) and indirectly impact one other intermittent stream (WUS 2), both of which ultimately discharge to the Severn River and Chesapeake Bay. Although the streams run through the Proposed Action area, the layout is conceptual, and there is the opportunity to adjust project elements to avoid direct impacts once design begins. Construction activities could

also indirectly impact Wetland A and Wetland B due to their proximity to the site, connectivity to WUS 2 and WUS 3, and the potential for sediment and pollutant run-off during construction activities. WUS 1 likely would not be directly or indirectly impacted from the Proposed Action because it is further removed by distance from the project site and has a buffer of mature forest.

The Proposed Action would increase the impervious surfaces in the proximity of WUS 1, WUS 3, Wetland A and Wetland B. Surface run-off from these impervious surfaces would increase surface flow and volume could degrade water quality from surface pollutants and sedimentation, which could adversely impact the available habitat for aquatic species.

Impacts to wetlands and WUS, both direct and indirect, would be avoided to the maximum extent practicable pursuant to EO 11990 and the CWA. If, during project design, it is determined that direct impacts are not avoidable, permitting pursuant to Section 404 and 401 of the CWA, as well as the applicable MDE permits, may be required.

To minimize the potential for stormwater to become laden with sediment and migrate off site, the construction contractor would implement and maintain appropriate ESCP and SWPPP BMPs to control stormwater run-off, erosion, and sedimentation during construction activities. Appropriate erosion and sediment controls, such as synthetic hay bales and silt fencing, would be installed and maintained during construction. Areas disturbed outside of the footprint of the new construction would be reseeded, replanted, and/or re-sodded following construction activities, which would decrease the overall erosion potential of the site and improve soil productivity.

During construction activities, FMMD would require contractors to adhere to all applicable permits and management plans, including Section 401 and 404 permits under the CWA, and to adhere to BMPs including source control measures to prevent pollutants from leaving the project site, reduce/eliminate the introduction of pollutants, protect sensitive areas, and prevent precipitation and pollutants from interacting. BMPs would be used to prevent soil erosion and protect surface waters to the greatest extent possible. FMMD would also follow all BMPs and mitigation measures as specified in Section 401 and 404 permits to minimize the risk of soil erosion and sediment discharges. In addition, FMMD would comply with any compensatory mitigation measures specified in the Section 401 and 404 permits, if required.

To further reduce potential impacts to aquatic habitats during operation, BMPs mentioned in **Section 4.8.3.2** would be followed.

4.10.3.3 Impacts from Operation of the Proposed Action

4.10.3.3.1 Vegetation

Ongoing operation of facilities constructed under the Proposed Action would not be anticipated to result in impacts to vegetation beyond those associated with initial clearing, grading, and landscaping of the site.

4.10.3.3.2 Wildlife

Wildlife would continue to experience disturbances associated with noise and commuter vehicle traffic as a result of operations of the Proposed Action. No additional impacts to wildlife would be anticipated to occur as a result of operations.

4.10.3.3.3 Rare, Threatened, or Endangered Species

Rare, threatened, and endangered species would continue to experience disturbances associated with noise and commuter vehicle traffic as a result of operations of the Proposed Action. No additional impacts to these species would be anticipated to occur as a result of operations.

4.10.3.3.4 State-Listed Wildlife and Plant Species

State-listed wildlife and plant species would continue to experience disturbances associated with noise and commuter vehicle traffic as a result of operations of the Proposed Action. No additional impacts to state-listed wildlife and plant species would be anticipated to occur as a result of operations.

4.10.3.3.5 Aquatic Habitat

Ongoing operation of facilities constructed as part of the Proposed Action would not be anticipated to result in impacts to aquatic habitat beyond those associated with sedimentation and erosion concerns that could result from initial clearing, grading, and landscaping of the site.

4.10.3.4 No Action

Under the No Action Alternative, existing plant composition at the Proposed Action site would remain unchanged. The No Action Alternative would retain the forested conditions at the Proposed Action site for the foreseeable future, although it is possible that future development at the site would occur for another purpose. In addition, existing forest, wetland, and aquatic habitats would remain available for wildlife and rare, threatened, and endangered state-listed species, and there would be no requirement to create new habitats elsewhere on FMMD as mitigation. Therefore, the No Action Alternative would have a long-term, beneficial impact on biological resources.

4.11 Transportation, Energy, and Utilities

4.11.1 Definition of the Resource

Utilities consist of the systems and structures that enable a population in a specified area to function. Infrastructure is wholly man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as developed. Infrastructure components include transportation and utility systems, solid waste management, and sanitary and storm sewers. The availability of infrastructure and its capacity to support more users, including future development of an area, are generally regarded as essential to continued economic growth.

Transportation refers to the system of roadways, highways, and transit services in the vicinity of the installation that potentially could be affected by a proposed action.

Existing roads are important man-made constraints. Depending on their efficiency and quality, they should be maintained to maximize past investments. Built elements of the pedestrian scale, such as sidewalks, play an important role in shaping how personnel view and experience an installation's outdoor space. Built constraints are elements that an installation is responsible for. They should support a larger vision while facilitating mission readiness.

The ROI for transportation and utilities includes the roadways and infrastructure immediately surrounding the Proposed Action site but is expanded to include transportation and utility resources throughout FMMD and in the surrounding community where noted.

4.11.2 Existing Conditions

4.11.2.1 Transportation – Installation-wide

FMMD is located in Anne Arundel County and is served by the surrounding roadway network:

- Baltimore-Washington Parkway (MD 295)
- MD 175 (Annapolis Road)
- MD 32
- MD 198

FMMD is accessible from the following four access control gates:

- Gate 1: Mapes Road and MD 32
- Gate 2: Mapes Road and MD 175
- Gate 3: Rockenbach Road and MD 175
- Gate 7: Reece Road and MD 175 (Demps Visitor Control Center).

4.11.2.2 Transportation – Proposed Action Site

The site is not currently accessible by vehicular traffic, and the Proposed Action includes the construction of an access drive off existing roadways.

4.11.2.3 Energy – Installation-wide

FMMD is supported by existing energy utilities.

4.11.2.4 Energy – Proposed Action Site

The Proposed Action would tie into existing energy infrastructure.

4.11.2.5 Utilities – Installation-wide

FMMD has a well-connected grid of utilities that encompasses the entire Installation. Ample utility capacity can handle additional growth at FMMD. The Network Enterprise Center has oversight for the fiber-optic communication utilities at FMMD.

4.11.2.6 Utilities – Proposed Action Site

Existing utility infrastructure is already in place and the Proposed Action would connect into it.

4.11.3 Environmental Consequences

4.11.3.1 Evaluation Criteria

A proposed action is considered to have a significant effect on traffic and roadways if it caused a reduction of more than two levels of service at roads and intersections within the ROI or an increase in daily traffic of more than 20 percent above pre-action levels. A proposed action would be considered to have a significant effect on energy and utilities if it resulted in a prolonged or repeated service disruptions to utility end users and/or substantial increase in utility demand relative to existing and planned regional uses.

4.11.3.2 Impacts from Construction of the Proposed Action

4.11.3.2.1 Transportation

The Proposed Action would have a short-term, negligible, adverse impact on traffic and roadways in the form of construction traffic in the immediate area of the Proposed Action. Traffic along nearby arterial roadways may see a temporary increase in truck traffic during construction activities. A larger network of state routes in the vicinity of the FMMD campus provide numerous alternate routes that would enable travelers to avoid any increase in traffic. Impacts to transportation facilities would be anticipated to be minor due to the connectivity to the greater FMMD roadway network.

The existing roadway network within FMMD provides sufficient access for any heavy equipment that may be required for construction of the Proposed Action; therefore, none of the construction equipment used would require modifications to transportation infrastructure or traffic patterns. The number of construction workers associated with the project would add a negligible increase (less than 1 percent) to the overall daily traffic volume within FMMD.

To ensure that construction vehicles do not degrade the quality of the roadways within FMMD, gravel construction pads, brushes, and/or water rinse areas would be installed at the construction site exit to ensure loose soil would be physically removed from construction equipment before the equipment travels on FMMD and adjoining roadways.

4.11.3.2.2 Energy

Any potential short-term disruptions to electrical or natural gas service within the proposed project area during construction activities would be mitigated through project planning. Disruptions could occur from temporary service interruptions during rerouting of above- or belowground service lines or installing connections to new buildings. These disruptions would be short term and the impacts would be negligible.

4.11.3.2.3 Utilities

Any potential short-term disruptions to communication lines, potable water, and wastewater utilities within the Proposed Action site during construction activities would be mitigated through project planning. Disruptions could occur from temporary service interruptions during rerouting of above- or belowground service lines or installing connections to new buildings. These disruptions would be short term and the impacts would be negligible.

4.11.3.3 Impacts from Operation of the Proposed Action

4.11.3.3.1 Transportation

Operating the DC3 facility would increase daily vehicle traffic volume along the nearest arterial roadway and the surrounding network. Personnel formerly commuting to the Linthicum, MD leased facilities would be regularly accessing the proposed facility. Traffic volumes would temporarily increase during morning and afternoon rush hours. No deficiencies have been identified in the current roadway infrastructure that would require correction to support this temporary daily increase in traffic volumes. However, should operating the DC3 facility lead to a decrease in traffic flow or roadway quality, FMMD would identify corrective actions that could be implemented to improve traffic conditions. As a result, operating the Proposed Action would

have a long-term, negligible, adverse impact on traffic conditions on the roadways immediately adjacent to the DC3.

By consolidating the cybersecurity facilities at FMMD, the Proposed Action would decrease the distance that personnel would otherwise travel to the existing locations outside of FMMD. This represents a long-term, negligible, direct beneficial impact on traffic conditions as it relates to distance traveled for cybersecurity personnel for their daily commute.

The Proposed Action would also result in a reduction in the traffic volume at exits and entrances to FMMD and on roadways outside of FMMD. However, this reduction in traffic volume represents a negligible decrease (less than 1 percent) in the total daily traffic volume entering and exiting FMMD and on roadways outside of FMMD. Therefore, the Proposed Action would be anticipated to have no impact on traffic conditions at FMMD gates and roadways outside of FMMD.

4.11.3.3.2 Energy

Operation of the DC3 facility under the Proposed Action would not be expected to result in significant, adverse impacts to energy resources. Existing energy distribution lines are located in proximity to the Proposed Action site and the generation facilities would have adequate capacity for the operation of the proposed facility once constructed.

4.11.3.3.3 Utilities

Operation of the DC3 facility under the Proposed Action would not be expected to result in significant, adverse impacts to utilities. Existing communication, potable water, and wastewater lines are located in proximity to the Proposed Action site and would have adequate capacity for the operation of the facility once constructed.

4.11.3.4 No Action

The No Action Alternative would have no long-term impact on traffic conditions or energy and utility availability. Under the No Action Alternative, personnel would continue to travel outside of FMMD to work at the existing leased cybersecurity facilities, increasing the distance they must travel to and from FMMD on a daily basis.

4.12 Hazardous, Toxic, and Radioactive Substances

4.12.1 Definition of the Resource

A hazardous substance is defined as any substance that is:

1. Listed in Section 101(14) of *Comprehensive Environmental Response, Compensation, and Liability Act* (42 USC § 9601 et seq.);
2. Designated as a biologic agent or other disease causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring;
3. Listed by the U.S. Department of Transportation as hazardous materials under 49 CFR § 172.101 and appendices; or

4. Defined as a hazardous waste per 40 CFR § 261.3 or 49 CFR Part 171.

The implementation of the *Toxic Substances Control Act* (15 USC § 2601 et seq.) (TSCA) (40 CFR Parts 700–766) represented an effort by the Federal Government to regulate chemical substances and mixtures for which it was recognized that the manufacture, processing, distribution, use, or disposal may present unreasonable risk of personal injury or health of the environment, and to effectively regulate these substances and mixtures in interstate commerce. Toxic chemical substances regulated by USEPA under TSCA include asbestos and lead, which, for the purposes of this EA, are evaluated in the most common forms found in buildings, namely, asbestos-containing materials and lead-based paint. In addition to asbestos and lead, renovation/demolition activities have the potential to disturb radon, mercury, and polychlorinated biphenyl (PCBs). None of the proposed project phases involve demolition of buildings. Therefore, analysis of asbestos-containing material, lead-based paint, PCBs, radon, and mercury is excluded from further analysis in this EA.

The *Resource Conservation and Recovery Act* (42 USC § 6901 et seq.) defines hazardous waste as wastes or combination of wastes that, because of quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. All hazardous waste is classified as solid waste. A solid waste is any material that is disposed, incinerated, treated, or recycled except those exempted under 40 CFR § 261.4.

FMMD’s DPW Environmental Division is responsible for managing hazardous materials and waste. FMMD operates under a spill prevention control and countermeasures plan (SPCCP)/installation spill contingency plan (ISCP) for all facilities in which hazardous materials are stored. The SPCCP/ISCP delineates measures and practices that require implementation to prevent and/or minimize spill/release from storage and handling of hazardous materials to protect ground and water surfaces. The ISCP provides emergency response instructions for spills and uncontrolled releases of hazardous materials. Instructions include notification, probable spill routes, control measures, exposure limits and evacuation guidelines. The ISCP contains safety data sheets that provide information about health hazards and first-aid procedures.

The ROI for hazardous, toxic, and radioactive substances is the Proposed Action site.

4.12.2 Existing Conditions

4.12.2.1 Installation-wide

In 2009, FMMD signed a federal facility agreement with the USEPA, U.S. Department of the Interior (USEPA 2009). This document establishes the role that FMMD and USEPA each play in the restoration of the Installation and the formal mechanisms of this process. The Installation Restoration Program’s (IRP) staff works closely with the USEPA, MDE, and local government agencies to ensure that cleanup processes are conducted properly and efficiently. The staff also receives input from community groups and nearby residential areas.

FMMD also has an installation hazardous waste management plan (FMMD 2023a). Those who handle or manage hazardous materials or hazardous waste are trained in accordance with federal, state, local, and Army requirements. Each facility has appointed an emergency management

coordinator who is responsible for emergency response actions until relieved by hazardous materials spill response personnel.

4.12.2.2 Proposed Action Site

Because the Proposed Action site is wooded and undeveloped, there are no existing hazardous wastes or materials generated or known to occur within the site. Two IRP sites are located in proximity to the Proposed Action site: OU-46 and OU-1.

FGGM 96 (OU-46) Incinerator Building 1943

The Former Incinerator Building 1943 was identified in a 1998 environmental baseline survey. The incinerator was present from 1947 to 1975, and its outline is visible in the 1943 through 1977 historical aerial photographs. Over the course of multiple investigations at this site, surface and subsurface soil samples were analyzed for metals and dioxins. It was determined that soil within the site does not pose a risk (USACE 2023).

In addition, three groundwater monitoring wells were installed within the IRP site, and groundwater samples were collected and analyzed for metals. The concentrations of chromium, cobalt, and manganese in groundwater cause risk to human health if encountered. The final site investigation recommended No Further Action (NFA) for this site. An NFA Consensus Letter was received from the USEPA on March 18, 2021, approving NFA (USACE 2023).

FGGM 83 (OU-1) Former Trap and Skeet Range, Former Buildings 2046 and 2047

FGGM-83 is a former recreational trap and skeet range used by FMMD from the mid-1970s through 1994. The site is located approximately 500 feet south of the Proposed Action site and contains a small concrete-block storage shed, grass-covered areas, and a gravel access road. The former trap and skeet range consisted of a firing line, skeet houses, and a man-made pond. Two former buildings, 2046 and 2047, were located near the western site boundary but were demolished in 2001. Over the course of previous investigations at this site, shallow soil, sediment, surface water, and groundwater samples were collected and analyzed. A final remedial investigation report was approved by the USEPA in 2011. The final feasibility study was approved by USEPA and MDE in 2019, recommending surface soil removal above the target levels for lead and lead shot in surface soil. The final feasibility study was approved in September 2019 (USACE 2023).

4.12.3 Environmental Consequences

4.12.3.1 Evaluation Criteria

Impacts on hazardous material management would be considered adverse if the Proposed Action resulted in noncompliance with applicable federal and state regulations or increased the amounts generated or procured beyond current FMMD waste management procedures and capacities. Impacts on the IRP would be considered adverse if the Proposed Action disturbed (or created) contaminated sites resulting in negative effects on human health or the environment.

4.12.3.2 Impacts from Construction of the Proposed Action

Equipment and machinery used to perform the construction and demolition duties would have the potential to spill into the environment in the event of an accident or machine failure. In the event of an accident causing a discharge to the environment, the cleanup debris would be considered a hazardous waste. All effort should be made to prevent discharges to the environment through the use of spill containment, equipment inspections, and hazardous waste management practices.

4.12.3.2.1 Installation Restoration Program

FGGM 96 (OU-46) Incinerator Building 1943

Construction of the Proposed Action would require construction of an access road to connect to existing roadways. Road construction for this extension would have the potential to disrupt approximately 5,600 SF of soil for grading and paving activities within the boundaries of the 1943 Incinerator Building site. The site was approved for an NFA designation by the USEPA in 2021 and the soil at this site does not pose any risk to construction crews or Installation personnel; therefore, no impacts to personnel would be anticipated as a result of ground disturbance associated with construction activities.

Groundwater contamination exists within the boundaries of this site; however, the primary construction activity occurring within the site would be grading and paving the access road. The proposed activities would have no potential to encounter groundwater; therefore, no adverse impacts to human health and the environment from this IRP site would be anticipated with construction of the Proposed Action.

Should any unusual odors, colors, soil and water condition, or buried tank of any kind be encountered during site work activities, all work would stop and the contractor would report the situation to the DPW Environmental Division IRP Manager.

No activities, including, but not limited to, parking, driving, storing of materials, boring, excavation, would be conducted within 10 feet of any monitoring well. If a monitoring well is encountered during construction activities, all work would stop and the contractor would report the situation to the DPW Environmental Division IRP Manager or DPW Environmental Division.

FGGM 83 (OU-1) Former Trap and Skeet Range, Former Buildings 2046 and 2047

The construction footprint of the Proposed Action would not impact IRP site OU-1. Due to the densely wooded area, it is also unlikely that this location would be suitable for equipment staging. No adverse impacts to human health or the environment from either construction or equipment storage within this IRP site would be anticipated with construction of the Proposed Action.

4.12.3.3 Impacts from Operation of the Proposed Action

4.12.3.3.1 Installation Restoration Program

FGGM 96 (OU-46) Incinerator Building 1943

The operation of the DC3 facility would not impact the management of IRP site UO-46. Once constructed, there would be no further ground disturbances along the access road. Commuter travel to and from the DC3 facility would not impact this site.

FGGM 83 (OU-1) Former Trap and Skeet Range, Former Buildings 2046 and 2047

The operation of the DC3 facility would not impact IRP site OU-1. The site falls outside of the footprint of the Proposed Action and operation of the facility would not inhibit the future management of the site.

4.12.3.4 No Action

Under the No Action Alternative, the existing condition of hazardous, toxic, and radioactive substances at the Proposed Action site would remain unchanged. The Proposed Action site would remain undisturbed, and there would be no mechanisms or activities to impact existing resources.

Therefore, the No Action Alternative would not impact hazardous, toxic, and radioactive substances.

4.13 Socioeconomics and Environmental Justice

4.13.1 Definition of the Resource

Socioeconomics is the relationship between economics and social elements, such as population levels and economic activity. Several factors can be used as indicators of economic conditions for a geographic area, such as demographics, median household income, unemployment rates, percentage of dependents living below the poverty level, employment, and housing data. Employment data identify gross numbers of employees, employment by industry or trade, and unemployment trends. Data on industrial, commercial, and other sectors of the economy provide baseline information about the economic health of a region. Socioeconomic data are typically presented at county, state, and national levels to characterize baseline socioeconomic conditions in the context of regional, state, and national trends.

The ROI for socioeconomic impacts is Anne Arundel County, Maryland. This ROI was selected because it represents the geographic area that is most directly and indirectly impacted by major activities occurring at FMMD. Socioeconomic data are provided in this section to establish baseline conditions. Data consist primarily of publicly available information for FMMD, Anne Arundel County, the State of Maryland, and the U.S.

EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, (February 11, 1994) 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*, (April 26, 2023) expands and deepens the directives and concepts outlined in EO 12898. EO 14096 defines environmental justice (EJ) as the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment. EO 14096 directs federal agencies to identify, analyze, and address disproportionate and adverse human health and environmental effects and hazards of federal activities.

4.13.2 Existing Conditions

4.13.2.1 Employment

FMMD is the Army's second-largest installation by population, with more than 60,000 employees that represent the Army, Navy, Air Force, Marines, and Coast Guard.

FMMD generates a total of \$17.8 billion in economic activity in Maryland, or 49.4 percent of the total \$36 billion in economic impact from all the military posts in the state. It is the largest level of employment, payrolls, and purchases in Maryland. FMMD creates or supports 125,729 jobs earning an estimated \$9.2 billion in employee compensation. The direct FMMD employment of 48,389 accounts for 1.4 percent of all employment in Maryland and when multiplier impacts are included, the 125,729 jobs created or supported by FMMD account for 3.6 percent of all employment in Maryland (Fort Meade Alliance 2020).

4.13.2.2 Household Income and Property Value

Median household income in Anne Arundel County is \$107,823. The median household income for the State of Maryland is \$90,203 and for the United States is \$69,717 (USCB 2021). Median household income in FMMD is \$71,045. The poverty rate for Anne Arundel County is 6.2%, compared to 9.6% for Maryland.

The median property value on FMMD is \$218,000, and the homeownership rate is 2.32 percent; the majority of FMMD housing is managed by the Army through privatized housing agreements. The median property value of owner-occupied housing units off Installation in Anne Arundel County is \$425,800, and the homeownership rate is 74.6 percent (USCB 2021).

4.13.2.3 EJScreen

USEPA’s EJScreen, based on nationally consistent data and an approach that combines environmental and demographic indicators in maps and reports, was used to evaluate potential EJ communities in the Proposed Action vicinity. A total of five census block groups were analyzed (240037406021, 240037401041, 240037406023, 240037406022, and 240037401043), to include areas within FMMD itself, as well as its surrounding communities to the east and south of the Proposed Action location (USEPA 2024).

Table 13. Socioeconomic Indicators for Environmental Justice

Socioeconomic Indicator	Percentage in Block Groups	State Average (MD)	Percentile in State	National Average	Percentile in Nation
People of Color	63%	49%	63	39%	74
Low Income	17%	22%	49	31%	32

Source: USEPA EJ Screen Community Report (<https://ejscreen.epa.gov/mapper/ejscreen>)

People of Color are defined in US EPA’s EJScreen as the percent of individuals in a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. That is, all people other than non-Hispanic white-alone individuals. Low income is defined as the percent of a block group's population in households where the household income is less than or equal to twice the federal "poverty level."

The USEPA EJScreen tool looks at 13 environmental indicators, combined with socioeconomic information such as that presented in **Table 13**. The EJ index highlights block groups with the highest intersection of low-income populations, People of Color, and a given environmental indicator (USEPA 2024). USEPA EJ Screen rated the project in the 80-95th percentile across the nation for ozone, superfund proximity, and hazardous waste proximity. A map of the five block groups analyzed and the EJScreen Community Report is included in **Appendix E**. Based on the information presented in **Table 13** and the Community Report in **Appendix E**, EJ communities are located within the vicinity of the Proposed Action.

Persons with disabilities and/or Tribal affiliation are also included under the definition of EJ populations pursuant to EO 14096. In the block groups considered, the percentage of the population with Tribal affiliation is zero. The percentage of persons with disabilities is 8.6 percent, lower than both the state and national averages (**Appendix E**).

4.13.3 Environmental Consequences

4.13.3.1 Evaluation Criteria

Impacts to socioeconomics would be considered significant if they were to cause substantial changes to the sales volume, income, employment, or population in the ROI.

Socioeconomic considerations typically include construction costs and the local economic benefits related to increases in personnel. Economic impacts are defined to include direct effects, such as changes to employment and expenditures that affect the flow of dollars into the local economy, and indirect effects, which result from the “ripple effect” of spending and re-spending in response to the direct effects. Induced impacts are the result of spending of the wages and salaries of the direct and indirect employees on items such as food, housing, transportation, and medical services. This spending creates induced employment in nearly all sectors of the economy, especially service sectors, and can flow beyond the ROI.

4.13.3.2 Impacts from Construction of the Proposed Action

Short-term, negligible, direct, indirect, beneficial impacts to socioeconomics would be expected to occur during the construction period, as construction-related jobs would generally stimulate economic activity within the ROI. An indirect benefit beyond the ROI would also occur due to wages and spending on building materials. While the economic benefits would be beneficial to the employees of the firms selected to implement the construction work, the overall impact on socioeconomic conditions at FMMD and within Anne Arundel County would be negligible. Additionally, neither the design work nor construction activities would induce long-term changes in employment, housing, or demands on education or community resources within the community due to the short duration of construction (2 years). Temporary or permanent migration of workers and/or their families into the ROI would not be anticipated; therefore, no impact to community or protective services would be anticipated with implementation of the Proposed Action.

The Proposed Action would not have a potential disproportionate impact on communities with environmental justice concerns caused by the presence and accumulation of other environmental impacts within FMMD or Anne Arundel County. The emissions of ozone precursors from the operation of construction equipment and construction worker commutes were presented in **Table 4**, Section 4.6.7.5. The estimated emissions of ozone precursors were less than the *de minimus* thresholds and are not anticipated to result in an adverse effect to surrounding communities. Two areas of prior contamination in the vicinity of the Proposed Action are described in Section 4.12.2.2. The final site investigation of the former incinerator building recommended NFA for this site, and a final feasibility study for the former skeet range was approved in 2019.

Impacts would be negligible and would not exceed those to the general population. Impacts would not occur in communities with environmental justice concerns that have been impacted by cumulative or multiple adverse exposures. Further, this Proposed Action would take place on FMMD in an administrative area that does not have a socially vulnerable, low-income population. Therefore, the Proposed Action would have no mechanism for impact on communities with environmental justice concerns.

4.13.3.3 Impacts from Operation of the Proposed Action

Operating the new DC3 facility under Proposed Action would provide long-term, minor, direct, beneficial impacts to personnel who are employed, or may become employed, at the facility. It

would reduce both the time and transportation expenses associated with driving off FMMD for work for those personnel living on FMMD. The proximity of the Proposed Action to other, related missions already located on FMMD would reduce driving trips undertaken for purposes of mission alignment and collaboration.

Operating the Proposed Action would also have a long-term, minor, direct, beneficial impact to the Army because the provision of a new, modern, well-designed facility would be a significant improvement for the Army's investment, materially reducing operating costs associated with the existing leases. These savings in costs and improved investments to the Army would increase with each succeeding generation of users.

4.13.3.4 No Action

Under the No Action Alternative, existing conditions would remain unchanged. There would be a long-term, minor, direct, adverse impact associated with the continued time and transportation expenses incurred by personnel traveling outside of FMMD to work within the cybersecurity facilities.

4.14 Protection of Children

4.14.1 Definition of the Resource

Federal agencies are directed by EOs to address and assess environmental health and safety risks to children. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, states that each federal agency "(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks."

The ROI for protection of children is the Proposed Action site and the immediate surrounding area.

4.14.2 Existing Conditions

4.14.2.1 Installation-wide

There are no designated play/recreation areas available to the general public anywhere at FMMD, including the play spaces at the CDCs, tracks and fields, and other designated recreational areas at FMMD.

4.14.2.2 Proposed Action Site

The Proposed Action site is in the vicinity of schools which have designated outdoor play areas for children. Access into and out of these play areas is controlled and the perimeter is secured with fencing, which prevents children from leaving the elementary school or daycare facility without supervision. The area between these facilities and the Proposed Action site is densely wooded and would retain a buffer of wooded trees. As a result, the Proposed Action site would not be considered accessible to children.

4.14.3 Environmental Consequences

4.14.3.1 Evaluation Criteria

An impact would be considered significant if it resulted in potential disproportionately high and adverse impacts to environmental health and safety risks to children, consistent with EO 13045.

4.14.3.2 Impacts from Construction of the Proposed Action

There would be short-term, negligible, direct, adverse impacts to the protection of children during construction in the form of increased noise, traffic, particulate matter, and other associated construction-related activities adjacent to the elementary school and daycare facility.

These impacts would be temporary, and additional measures to avoid adverse impacts to children would include the installation of temporary construction safety fencing around the construction perimeter to prevent unauthorized access by any age group, including children.

4.14.3.3 Impacts from Operation of the Proposed Action

There would be no impacts to children from operation of the Proposed Action. Schools in the vicinity of the Proposed Action site would be unaffected by the continued operation of the DC3 facility once constructed.

4.14.3.4 No Action

Under the No Action Alternative, the DC3 facility would not be constructed, and no potential would exist for impacts to schools.

4.15 Cumulative Impacts

4.15.1 Definition of 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 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.¹ 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 or synergism 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:

1. 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?
2. 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?

¹ https://ceq.doe.gov/publications/cumulative_effects.html

3. 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 FMMD property. **Table 14** identifies projects occurring within the same general timeframe at FMMD and whose effects, when added to those of the Proposed Action, may result in cumulative effects. The following subsections include a discussion of potential cumulative impacts by environmental resource area.

Table 14. Actions at FMMD Potentially Causing Cumulative Effects of Importance

Project	Description
FMMD Stream Improvements Project	Restore eight impaired stream reaches in the Midway Branch, Franklin Branch, Rogue Harbor, and Severn Run watersheds at FMMD to improve water quality, reduce flooding, enhance fish habitat, prevent further stream degradation, and provide numerous co-benefits for FMMD and neighboring communities, while also helping FMMD maintain compliance with federal and state water quality requirements.
Operations Facility	Construct a new two-story operational building with associated parking on available space within the southeast portion of FMMD.
Programmatic EIS for a Tenant Organization at FMMD	The Final EIS was completed in 2017 for a new operational complex.
Proposed Road Improvements at FMMD	An EA for 11 road improvement projects within FMMD was completed November 2017. The projects include widening of Cooper Avenue and Rose Street from two to four lanes to increase safety, efficiency, and traffic flow and connect primary roads and widening of Reece Road where the new four-lane road ends. Sidewalks would be rebuilt to regulation and design standards. All projects would include stormwater management and LID technologies, and landscaping (including street trees, lighting, and street furniture) would be added in accordance with Maryland state law and Army and Installation design guidelines, policy, and regulations.
Tenant Organization	This project involves the construction and operation of a facility with an associated surface parking area on FMMD.
Proposed Child Development Center V (CDC V)	This project involves construction of an approximately 24,440 SF daycare CDC to accommodate approximately 303 children. The proposed facility would include parking, a storage shed, and fenced outdoor playgrounds.
Phased Barracks Construction	FMMD proposes to design and construct up to nine new barracks facilities to house 1,600–1,800 unaccompanied enlisted personnel, to be constructed in three phases at three sites in close proximity on FMMD. The first phase is currently under design.
Physical Training Site with Running Trails and Confidence Course	Included in the FMMD Area Development Plan, these short- and mid-range future projects would be sited in the forested buffer between the CSL and the western border of the Installation where it meets the Patuxent Research Refuge.

Project	Description
Logistic Readiness Center (LRC) Improvements	Improvements to the existing LRC include construction of an LRC maintenance facility (14,400 SF), fuel point (200 SF), and a warehouse and administration building (33,500 SF). Each project would be completed in a separate construction phase, which would contribute to the overall upgrade of the LRC complex. These projects would replace inadequate and dilapidated facilities, pavement, and fueling areas.
Anne Arundel County Potable Water Transmission Lines	Anne Arundel County proposes to install approximately 20,000 linear feet of new potable water transmission main along MD 32 across the southern portion of Fort Meade and northern portion of the Patuxent National Wildlife Refuge. The corridor includes a portion of FMMD on the southern side of MD 32.
Maryland Department of Transportation (MDOT), State Highways Administration (SHA)	Two SHA projects in the area include roadway improvements along Annapolis Road, from Mapes Road to MD 32, and roadway and interchange improvements where Annapolis Road intersects MD 295.

4.15.2 Potential Cumulative Impacts by Environmental Resource Area

The following analysis examines the potential cumulative impacts on the natural and human-made environment that would result from the cumulative impacts of the Proposed Action, in combination with the other actions described above. Based on the assessment of past, present, and reasonably foreseeable future actions at and in the vicinity of the Proposed Action site, a limited number of resource topics analyzed in this EA would be reasonably expected to experience cumulative impacts: air quality and climate change; water resources (stormwater); biological resources (vegetation and wildlife); and socioeconomics.

4.15.2.1 Air Quality and Climate Change

The cumulative adverse impacts on air quality from implementation of the Proposed Action would remain at negligible levels. Short-term emissions from construction activities would temporarily impact air quality and this impact would cease once construction is completed. Estimated operational emissions from the Proposed Action would increase overall emissions from FMMD to a negligible degree. When combined with other projects, the emissions from construction and operation of the Proposed Action would not result in FMMD exceeding the thresholds for any criteria pollutant or violating any MDE air quality regulations and permit limits.

4.15.2.2 Water Resources

Development projects at FMMD that individually or collectively increase stormwater volume beyond the capacity of the existing facilities for stormwater retention would be considered an adverse impact. This would occur due to increased impervious surfaces, leading to the impairment of the existing stormwater management systems. The Proposed Action would manage stormwater according to MDE and FMMD requirements. As a result, on a cumulative basis, stormwater impacts at FMMD would not increase to a significant adverse level.

4.15.2.3 Biological Resources

The cumulative impacts of the Proposed Action, combined with the other proposed projects at FMMD, would result in the cumulative clearing of vegetation and habitat for wildlife to accommodate the proposed new facilities. The 2020 Fort Meade Area Development Plan identified the Proposed Action site as a developable area and the construction of the proposed DC3 as part of its 16–20-year long-range implementation plan (USACE 2020a). Implementation of the Proposed Action would be consistent with existing designated land uses and policies. Given the stated requirements of the Maryland FCA, the FMMD Tree Management Policy, the long-term goals of the FMMD Area Development Plan, and others, all of which would be adhered to, there would be both replacement for vegetation lost as well as improvement upon the types of vegetation currently growing in these areas. When considered in conjunction with other past, present, and reasonably foreseeable projects and environmental trends, adverse impacts to biological resources would be anticipated to remain below a significant level.

4.15.2.4 Socioeconomics

The cumulative socioeconomic impacts of the Proposed Action, combined with the other projects at FMMD, would not increase to significant beneficial levels because the scale of these projects is negligible in context to overall expenditure levels at FMMD and Anne Arundel County. Likewise, the minor beneficial impact to personnel would not increase to significant beneficial levels because the Proposed Action would not affect other commuters at FMMD.

1 **5.0 SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

2 As described in Chapter 4 of this EA, the construction and operation of the Proposed Action would
 3 not generate any significant adverse impacts, while significant beneficial impacts would be
 4 achieved during operation of the Proposed Action.

5 Minor or negligible, direct adverse impacts caused by constructing the Proposed Action would be
 6 temporary, occurring during the approximately 24-month construction phase, and be limited in
 7 extent to the Proposed Action site. Due to the relatively isolated location of the Proposed Action
 8 site in the northeastern portion of FMMD, only a small number of Service members, staff, and
 9 personnel at FMMD may be aware of and impacted by the Proposed Action construction.

10 Beneficial impacts caused by operating the Proposed Action would be permanent. The Proposed
 11 Action would consolidate DC3 operations into one main facility and increase collaboration with
 12 other agencies with similar missions on FMMD and optimize DC3 mission performance.

13 **Table 15** summarizes the potential impacts of the Proposed Action and the No Action Alternative.
 14 The summary is based on information discussed in detail in Chapter 4 of this EA and includes a
 15 concise definition of the issues addressed and the potential environmental impacts associated with
 16 each phase of the Proposed Action and its potential cumulative impacts.

17 **Table 15. Summary of Environmental Consequences**

Resource Area	Construction	Operation	Cumulative	No Action
Visual Resources	Short-term, minor, direct, adverse impacts on visual aesthetics due to the presence of construction vehicles and other associated disturbances from construction. Long-term, moderate, direct, adverse impacts on visual aesthetics due to site clearing.	Long-term, negligible, direct, adverse impacts on visual characteristics due to permanent conversion of wooded area into the DC3 complex.	No change in impact findings.	No impact to visual resources.
Earth Resources	Short-term, minor, direct, adverse impacts to earth resources due to soil site clearing, grading, earthmoving, and compaction.	Long-term, minor, direct, adverse impacts on soil quality due to permanent cover by impervious surfaces and compaction.	No change to impact findings.	No impact to earth resources.

Resource Area	Construction	Operation	Cumulative	No Action
Air Quality and Climate Change	Short-term, minor, direct, adverse impacts from clearing the construction site and operation of machinery.	Long-term, negligible, direct, adverse impacts from vehicles commuting to and from the DC3.	No change in impact findings.	No impact to air quality.
Noise	Short-term, minor, direct, adverse impacts from clearing the construction site and operation of machinery.	Long-term, negligible, direct, adverse impacts from vehicles commuting to and from the DC3.	No change in impact findings.	No impact to noise.
Water Resources	Long-term, direct, adverse impacts to water resources due to direct and indirect impacts to WUS and wetlands.	Long-term, negligible, direct, adverse impacts to water resources due to increased run-off and sedimentation from impervious surfaces.	No change in impact findings.	No impact to water resources.
Coastal Zone Management	Long-term, direct, adverse impacts would occur to coastal zone resources due to direct and indirect impacts to WUS and wetlands.	Long-term, indirect, minor adverse impacts to coastal zone resources due to increased run-off and sedimentation from impervious surfaces.	No change in impact findings.	No impact to coastal zone management.
Biological Resources	Permanent, direct adverse, impacts to biological resources, including rare, threatened, and endangered species and their habitats, from clearing 33 acres of mature forests and other construction activities.	Long-term, negligible, direct, adverse impacts to biological resources, including rare, threatened, and endangered species and their habitats, due to permanent loss during construction, but minimized through off-site replantings during operation.	No change in impact findings.	Beneficial impact to biological resources.

Resource Area	Construction	Operation	Cumulative	No Action
Transportation, Energy, and Utilities	Short-term, negligible, direct, adverse impact on traffic and roadways from construction activities and road closures. No impact to energy and utilities. Lines and connections are adjacent to the Proposed Action site. Construction would not disrupt service to existing utility customers.	Long-term, negligible, direct, adverse impact from increased traffic on roadways adjacent to DC3 during rush hour. Long-term, negligible, direct, beneficial impact by reducing travel distance for personnel commuting from FMMD.	No change in impact findings.	Long-term, negligible, direct, adverse impact to individuals continuing to travel longer distances to work outside of FMMD.
Hazardous, Toxic, and Radioactive Substances	Short-term, negligible, direct, adverse impact to one IRP site through the construction of a roadway connecting the Proposed Project site to existing roads. No impacts to toxic and radioactive substances.	No impact to hazardous, toxic, and radioactive substances through the operation of the proposed DC3 facility.	No change in impact findings.	No impact to hazardous, toxic, and radioactive substances.
Socioeconomics and Environmental Justice	Short-term, negligible, direct, indirect, beneficial impacts from spending on construction wages, equipment, and building materials.	Long-term, minor, direct, beneficial impacts to personnel by reducing commute time and transportation costs. Long-term, minor, direct, beneficial impacts to the Army by reducing costs through leasing property.	No change in impact findings.	Long-term, minor, direct adverse impact to FMMD by continuing to spend money to lease space outside of the Installation boundary.

Resource Area	Construction	Operation	Cumulative	No Action
Protection of Children	Short-term, negligible, direct, adverse impacts to children exposed to construction noise, traffic, particulate matter, and other construction-related activities.	No impacts to the welfare of children by the continued operation of the Proposed Action.	No change in impact findings.	No impacts to the welfare of children.

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7.0 ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ACAM	Air Conformity Applicability Model
BG&E	Baltimore Gas and Electric
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
CAA	Clean Air Act
CCS	Chesapeake and Coastal Service
CDC	Child Development Center
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COMAR	Code of Maryland Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
dBA	A-weighted decibel
DC3	Department of Defense Cyber Crime Center
DNL	Day Night Sound Level
DoD	Department of Defense
DPW	Department of Public Works
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EJ	Environmental justice
EO	Executive Order
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan
ESD	Environmental Site Design
FCA	Forest Conservation Act
FEMA	Federal Emergency Management Agency

Acronym	Definition
FMMD	Fort George G. Meade
FONSI	Finding of No Significant Impact
FY	fiscal year
GHG	greenhouse gas
GPM	gallons per minute
HAP	hazardous air pollutants
HVAC	heating, ventilation, and air conditioning
INRMP	Integrated National Resource Management Plan
IRP	Installation Restoration Program
ISCP	Installation Spill Contingency Plan
JCOG	Joint Commission on the Opportunity Gap
LEED	Leadership in Energy and Environmental Design
LID	low-impact development
LRC	Logistic Readiness Center
MARFORCYBER	Marine Corps Forces Cyberspace Command
MBTA	Migratory Bird Treaty Act
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MDNR	Maryland Department of Natural Resources
MHT	Maryland Historic Trust
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
NAA	nonattainment area
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves and Repatriation Act of 1979
NEPA	National Environmental Policy Act
NFA	No Further Action
NFHL	National Flood Hazard Layer
NHPA	National Historic Preservation Act
NLEB	Northern long-eared bat
NO _x	Nitrogen oxides
NOI	Notice of Intent

Acronym	Definition
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OSHA	Occupational Safety and Health Administration
OTR	Ozone Transport Region
Pb	lead
PCBs	polychlorinated biphenyl
PM _{2.5}	particulate matter equal to or less than 2.5 microns in diameter
PM ₁₀	particulate matter equal to or less than 10 microns in diameter
ROI	Region of Influence
SC GHG	Social Cost of Greenhouse Gases
SF	Square Foot/Feet
SHA	State Highways Administration
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SOCOM	United States Special Operations Command
SOF	Special Operations Forces
SPCCP	Spill Prevention Control and Countermeasures Plan
SWPPP	Stormwater Pollution Prevention Plan
TSCA	Toxic Substances Control Act
UFC	Unified Facilities Criteria
USACE	United States Army Corps of Engineers
USC	United States Code
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VOC	Volatile Organic Compound

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