



# Environmental Assessment Addressing Implementation of the Master Plan

Defense Distribution Center, Susquehanna,  
Pennsylvania

January 2020



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Defense Distribution Center, Susquehanna, Pennsylvania

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## **ENVIRONMENTAL ASSESSMENT ADDRESSING IMPLEMENTATION OF THE MASTER PLAN DEFENSE DISTRIBUTION CENTER, SUSQUEHANNA, PENNSYLVANIA**

**Responsible Agency:** Defense Logistics Agency (DLA).

**Affected Location:** Defense Distribution Center, Susquehanna, Pennsylvania.

**Report Designation:** Environmental Assessment.

**Abstract:** DLA proposes to implement the installation's 2019 Master Plan and projects in the component plans, which are the 2013 Net-Zero Energy Plan, 2013 Sustainability Plan, 2015 Integrated Pest Management Plan, and 2016 Integrated Natural Resources Management Plan. The Master Plan provides the direction for future development of the installation over the next 20 years and identifies potential Military Construction and Sustainment, Restoration, and Modernization projects that would enable it to meet its current and future mission requirements. The Net-Zero Energy Plan seeks to balance the installation's future energy demand from buildings, industrial processes, fleet vehicles, and equipment with renewable energy production. The Sustainability Plan provides a pathway for the installation to move toward compliance with relevant federal mandates regarding sustainability. The Integrated Pest Management Plan is the installation's plan for its pest management program. The Integrated Natural Resources Management Plan is the installation's plan for managing its natural resources while ensuring the success of the military mission.

This Environmental Assessment analyzes the potential for significant environmental impacts associated with the Proposed Action (implementation of the Master Plan and projects in the component plans) and alternatives, including the No Action Alternative.

The purpose of the Proposed Action is to enable orderly and comprehensive installation development in a manner that is sustainable, meets current mission requirements, and is flexible enough to meet future mission changes. The Proposed Action is needed to ensure the installation is able to meet its current and future mission requirements efficiently and effectively while ensuring its sustainability, protecting its natural resources, and improving safety.

Under the Proposed Action, DLA would replace undersized, inefficient buildings and infrastructure with modern, energy-efficient, sustainable buildings and infrastructure; demolish buildings that have exceeded their service life; maintain, repair, renovate, and replace aging building components and infrastructure; reduce energy and fossil fuel use; increase alternative energy use; achieve a net-zero energy footprint; meet or exceed federal sustainability mandates; continue conservation and enhancement of existing ecosystems on the installation; and reduce reliance on pesticides.

Under the No Action Alternative, DLA would not implement the Master Plan or projects in the component plans. DLA would continue to use and maintain existing undersized, inefficient buildings and infrastructure, and would not implement the installation development projects, sustainability improvements, and natural resources projects in the Master Plan and component plans. Implementation of the No Action Alternative would hinder the installation's ability to meet its current and future mission requirements and would not meet the purpose of and need for the Proposed Action.

No significant effects on environmental resources would be expected from the Proposed Action. Insignificant, adverse effects on recreation, noise, air quality, geological resources, water resources, biological resources, infrastructure and transportation, and hazardous materials and wastes would

be expected. However, insignificant, beneficial effects on airspace management, land use and recreation, noise, air quality, geological resources, water resources, biological resources, infrastructure and transportation, and hazardous materials and wastes also would be expected.



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Appendix A. Proposed SRM Projects and Component Plans Projects
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## List of Acronyms

ACM	asbestos-containing material	NH <sub>3</sub>	ammonia
ACP	access control point	NO <sub>x</sub>	nitrogen oxides
AOC	area of concern	NPDES	National Pollutant Discharge Elimination System
AST	aboveground storage tank	NRCS	Natural Resources Conservation Service
BMP	best management practice	NRHP	National Register of Historic Places
CEQ	Council on Environmental Quality	NZEP	Net-Zero Energy Plan
CFR	Code of Federal Regulations	PADEP	Pennsylvania Department of Environmental Protection
CO	carbon monoxide	PCB	polychlorinated biphenyl
CO <sub>2e</sub>	carbon dioxide equivalent	PM <sub>2.5</sub>	particulate matter measured less than or equal to 2.5 microns in diameter
COA	Course of Action	PM <sub>10</sub>	particulate matter measured less than or equal to 10 microns in diameter
dB	decibel(s)	RPZ	Runway Protection Zone
dba	A-weighted decibel(s)	SO <sub>x</sub>	sulfur oxides
DLA	Defense Logistics Agency	SP	Sustainability Plan
EA	Environmental Assessment	SRM	Sustainment, Restoration, and Modernization
EIS	Environmental Impact Statement	SWMU	solid waste management unit
EISA	Energy Independence and Security Act	tpy	tons per year
FAA	Federal Aviation Administration	USEPA	U.S. Environmental Protection Agency
GPD	gallons per day	USFWS	U.S. Fish and Wildlife Service
GPW	general purpose warehouse	UST	underground storage tank
INRMP	Integrated Natural Resources Management Plan	VOC	volatile organic compound
IPMP	Integrated Pest Management Plan	WWTP	wastewater treatment plant
IRP	Installation Restoration Program		
LBP	lead-based paint		
LID	low-impact development		
LUC	land use control		
MILCON	Military Construction		
NEPA	National Environmental Policy Act		

# 1 Proposed Action Purpose and Need

## 1.1 Introduction

Defense Distribution Center, Susquehanna is a Defense Logistics Agency (DLA) installation in New Cumberland, Pennsylvania, approximately 3 miles southeast of downtown Harrisburg (see **Figure 1-1**). It consists of approximately 850 acres of land with more than 150 buildings. The U.S. government owns the land and all real property assets on the installation. The U.S. Army, under permit No. DACA-31-4-16-464, allows DLA to manage the land on their behalf.

This Environmental Assessment (EA) addresses DLA's proposal to implement the installation's 2019 Master Plan and projects in the component plans, which are the 2013 Net-Zero Energy Plan (NZEP), 2013 Sustainability Plan (SP), 2015 Integrated Pest Management Plan (IPMP), and 2016 Integrated Natural Resources Management Plan (INRMP). The 2019 Master Plan is an update to the installation's 2013 Master Plan, provides direction for future development over the next 20 years, and identifies potential Military Construction (MILCON) and Sustainment, Restoration, and Modernization (SRM) projects that would enable the installation to meet current and future mission requirements. It includes a Future Development Plan, which is the implementation tool for the Master Plan and considers the condition of the facilities, land uses, environmental and operational constraints, sustainability practices, prioritization guidelines, and cost and efficiency strategies.

This EA analyzes the potential for significant environmental impacts associated with the Proposed Action (implementation of the Master Plan and projects in the component plans) and alternatives, including the No Action Alternative. It has been prepared in compliance with the National Environmental Policy Act (NEPA); Council on Environmental Quality (CEQ) regulations implementing NEPA (Title 40 Code of Federal Regulations (CFR) §§ 1500–1508); DLA Regulation 1000.22, *Environmental Considerations in Defense Logistics Agency Actions* (DLA 2011); and other applicable DLA issuances (e.g., regulations, directives, memorandums, instructions).

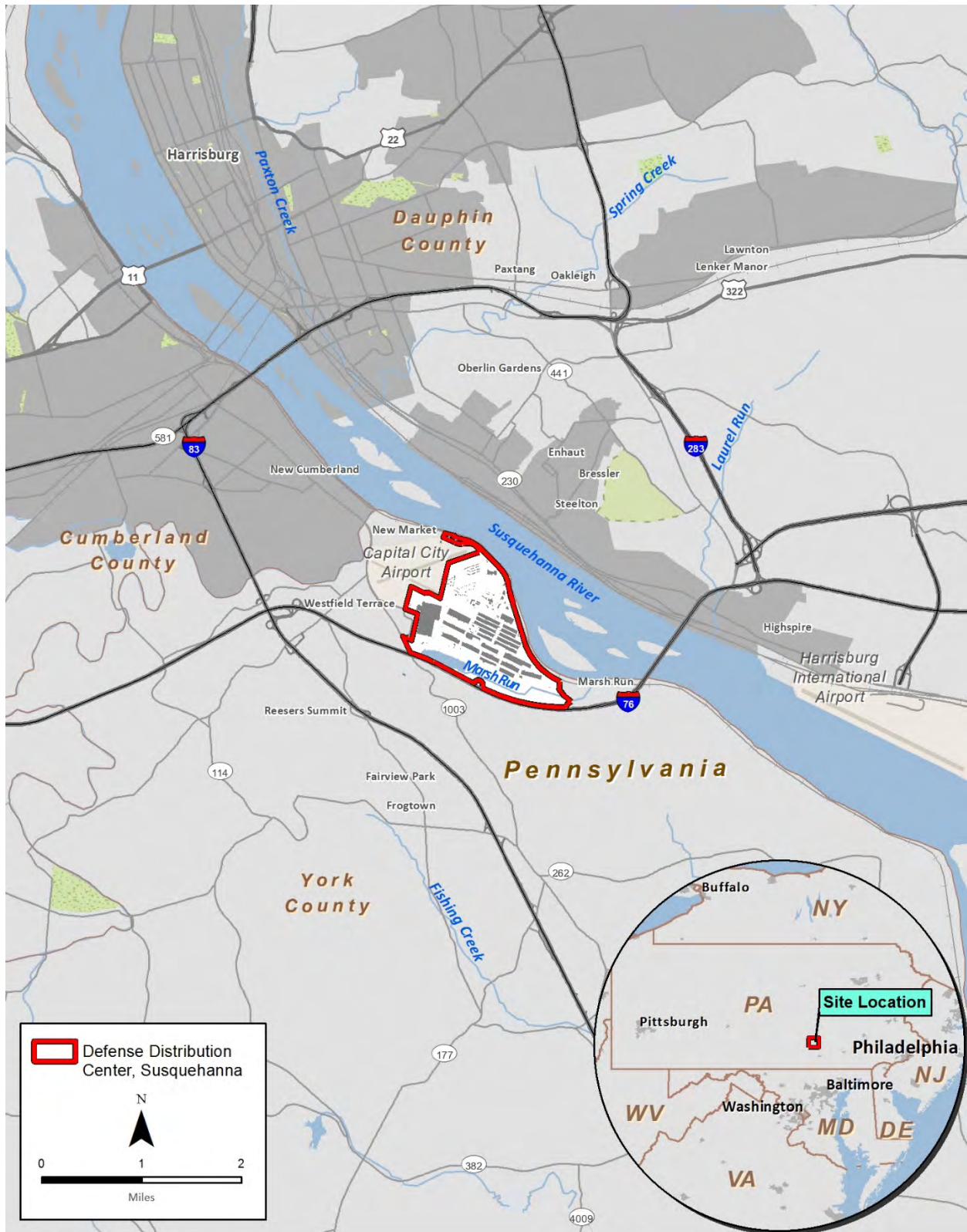
## 1.2 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to enable orderly and comprehensive installation development in a manner that is sustainable, meets current mission requirements, and is flexible enough to meet future mission changes. The Proposed Action is needed to ensure the installation is able to meet current and future mission requirements efficiently and effectively while ensuring sustainability, protecting natural resources, and improving safety.

## 1.3 Scope of the Environmental Assessment

The scope of this EA includes the actions proposed, alternatives considered, existing environment, and potential direct, indirect, and cumulative impacts. The Proposed Action and alternatives considered in this EA are presented in **Section 2**. The No Action Alternative has been analyzed to provide the baseline against which the potential environmental impacts of implementing the action alternatives can be compared. This EA analyzes the potential impacts of implementing the Master Plan and projects in the component plans. These documents guide the siting, design, and timing of future projects to meet current and future mission requirements and ensure development is conducted in a sustainable and environmentally conscious manner.

**Figure 1-1. Defense Distribution Center, Susquehanna and Vicinity**





The Future Development Plan is the implementation tool for the Master Plan. It includes 17 MILCON projects (Projects A through Q) and approximately 185 SRM projects. MILCON Projects A through E have been constructed, MILCON Projects F and G are on-going, and MILCON Projects H through Q are planned for the future. NEPA analysis of MILCON Projects A through G has already occurred via the 2015 Master Plan EA (DLA 2015a) and subsequent categorical exclusions. Note that the 2015 Master Plan EA and 2019 Master Plan use different project reference letters but similar project titles for MILCON Projects A through G. Of the MILCON projects planned for the future, only MILCON Project H is proposed in the near-term (i.e., within the next 5 years). Therefore, the scope of analysis in this EA is detailed analysis of MILCON Project H and programmatic analysis of MILCON Projects I through Q, the SRM projects, and the projects in the component plans. The programmatic analysis considers the location, timing, and design of the proposed projects, and is due to the uncertainty of future available funding, evolving mission requirements, political decisions, and Department of Defense and DLA policies.

Potential environmental impacts from construction, demolition, and operation of the programmatically analyzed projects will be addressed in separate NEPA documentation (e.g., categorical exclusion) when these projects are further defined and ready for NEPA analysis.

## 1.4 Summary of Key Environmental Compliance Requirements

### 1.4.1 National Environmental Policy Act

NEPA, codified in 42 United States Code § 4321 et seq., was signed into law on January 1, 1970. The Act established a national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within federal agencies. The Act also established the CEQ to coordinate federal environmental efforts. The process for implementing NEPA is outlined in 40 CFR §§ 1500–1508. CEQ regulations specify that an EA serves to briefly provide evidence and analysis for determining whether to prepare a Finding of No Significant Impact or an Environmental Impact Statement (EIS). As part of the EA process, DLA will determine whether the Proposed Action would have the potential to result in significant impacts. If the EA identifies potential significant impacts, then DLA will decide whether to mitigate impacts below the level of significance, undertake the preparation of an EIS, or select the No Action Alternative.

### 1.4.2 Applicable Environmental and Regulatory Compliance

The NEPA process does not replace procedural or substantive requirements of other environmental statutes and regulations. It addresses them collectively in the form of an EA or EIS, which enables the decision maker to have a comprehensive view of major environmental issues and requirements associated with the Proposed Action.

## 1.5 Agency Coordination and Public Involvement

DLA Regulation 1000.22 requires DLA to facilitate coordination with federal, state, and local officials and organizations that could be affected by a proposed action (DLA 2011). DLA invites agencies, tribes, and members of the public with an interest in the Proposed Action and alternatives to participate in this NEPA process, which provides DLA with the opportunity to coordinate with and

consider the views of other agencies, tribes, and individuals. A premise of NEPA is that the quality of federal decisions is enhanced by involving the public in the planning process.

Information regarding consultation with the Pennsylvania State Historic Preservation Office and Native American tribes is provided in **Section 3**, and information regarding U.S. Fish and Wildlife Service (USFWS) consultation is provided in **Section 3.7**.

DLA will make the EA available for a 30-day public comment period. A notice of availability for the EA and public comment period will be published in the *York Daily Record* and *The Patriot-News*. Comments received during the public comment period will be considered during preparation of the final version of the EA.



## 2 Proposed Action and Alternatives Description

### 2.1 Proposed Action

DLA proposes to implement the installation's Master Plan and projects in the component plans, which are the NZEP, SP, INRMP, and IPMP (see **Table 2-1**, **Figure 2-1**, and **Appendix A**).

#### 2.1.1 Master Plan

The Master Plan provides direction for the future development of the installation over the next 20 years and identifies potential projects that would ensure the installation is able to meet its current and future mission requirements efficiently and effectively while ensuring its sustainability, protecting its natural resources, and improving safety. It includes a Sustainability Planning Framework, Capital Investment Strategy, and Future Development Plan, each of which is described below.

**Sustainability Planning Framework:** The Sustainability Planning Framework is an 11-step process that considers the critical functions of the installation, sustainable practices, and areas suitable for renewable energy projects.

**Capital Investment Strategy:** The Capital Investment Strategy establishes the priorities for investing in the facilities development projects. It includes a short-range (1 to 5 years), mid-range (6 to 10 years), and long-range (11 to 20 years) development plan.

**Future Development Plan:** The Future Development Plan is the implementation tool for the Master Plan and includes 17 MILCON projects (Projects A through Q) and approximately 185 SRM projects. As noted in **Section 1.3**, NEPA analysis of MILCON Projects A through G has already occurred; therefore, the Proposed Action does not include these projects. MILCON Project H is the only near-term (i.e., within the next 5 years) MILCON project. Consequently, MILCON Project H is analyzed in detail. MILCON Projects I through Q, the SRM projects, and the projects of the component plans are analyzed programmatically (i.e., considers the location, timing, and design of the proposed projects). **Table 2-1** and **Figure 2-1** describe and identify the proposed locations of MILCON Projects H through Q, respectively. The SRM projects and projects of the component plans are listed in **Appendix A**.

The MILCON projects would be designed to meet necessary security and vehicle standoff requirements specified in Unified Facilities Criteria 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*. They also would meet regional seismic load, sustainable design and development, low-impact development (LID), Energy Policy Act of 2005, and Energy Independence and Security Act of 2007 (EISA) requirements. The MILCON projects would be designed to meet applicable Leadership in Energy and Environmental Design standards and comply with the Installation Design Guide. All MILCON projects would be constructed consistent with the Master Plan and its component plans.

MILCON Project H includes construction of an approximately 446,000-square foot general purpose warehouse (GPW) with an administrative annex (lunch/break area, restrooms, and locker rooms), utility annex, battery charging area, 10-foot clear stack height, and concrete floors at dock height level. It would have weather sealed truck doors, loading/unloading docks with hydraulic dock levelers, and connections to all utilities (DLA 2010). Buildings 5 and 6, which used to occupy the site for MILCON Project H, were demolished in September 2015; therefore, the site is vacant.

**Table 2-1. MILCON Projects Information**

Project Letter	Fiscal Year	New Building Number	Project Name and New Building Number	Associated Demolition
<i>Short-Term Project (Detailed Analysis)</i>				
H	2025	734	Construct GPW at Building 5/6 Site	None
<i>Conceptual Projects (Programmatic Analysis)</i>				
I	2025+	752	Construct GPW at Building 50/51 Site	None <sup>1</sup>
J	2029+	754	Construct GPW at Building 52/53/54 Site	None <sup>1</sup>
K	2029+	770	Construct GPW at Building 55/56/57 Site	None <sup>1</sup>
L	2029+	772	Construct GPW at Building 58/59 Site	None <sup>1</sup>
M	2029+	790	Construct Bulk Shed	None <sup>1</sup>
N	2029+	778	Construct Bulk Shed	None <sup>1</sup>
O	2029+	2069	Construct New Mail-Sorting Facility	Building 69
P	2029+	420	Construct New Administrative Facility	None <sup>1</sup>
Q	2029+	NA	Install Solar Farm in Environmentally Sensitive Area (Landfill)	None <sup>1</sup>

Source: DLA 2019

Notes:

NA = not applicable

<sup>1</sup> = Demolition of existing buildings is not associated with the MILCON funding for these projects.

Implementing the MILCON projects would replace undersized, inefficient buildings and infrastructure with modern, energy-efficient, sustainable buildings and infrastructure. As evident in **Figure 2-1**, construction of the MILCON projects is expected to result in an increase in impervious surfaces. Implementing the SRM projects would enable demolition of buildings that have exceeded their service life and necessary maintenance, repair, renovation, and replacement of aging building components and infrastructure.

### 2.1.2 Net-Zero Energy Plan

The NZEP balances the installation’s future energy demand from buildings, industrial processes, fleet vehicles, and equipment with renewable energy production. It provides a framework for the installation to develop a strategy to meet the applicable federal mandates for sustainability, energy reduction, alternative energy and fuels, and systems integration. The NZEP includes energy reduction and fleet management recommendations and renewable energy projects through 2040. The renewable energy projects include transpired solar collectors, a biomass power plant, and a solar photovoltaic project. The proposed projects include building energy conservation measures, fleet vehicle reductions and replacements, equipment reductions and replacements, renewable energy development, microgrid development, and a measurement and verification program (see **Appendix A**). Implementation of the NZEP recommendations and projects would result in energy and fossil fuel reduction, and an increase in alternative fuel use; and would enable the installation to achieve a net-zero energy footprint (DLA 2013a). The NZEP is only for projects at Defense Distribution Center, Susquehanna (i.e., no sharing of projects at other installations), and has not been updated since completion in 2013.



Figure 2-1. MILCON Projects Locations





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### 2.1.3 Sustainability Plan

The SP provides a pathway for the installation to move toward compliance with relevant federal sustainability mandates. The SP identifies goals, objectives, and action plans that provide a strategy to meet the sustainability goals of the installation within the constraints of available staffing and funding. The action plans cover several components of sustainability including energy, renewable energy, water, waste, fossil and alternative fuels, high-performance buildings, indoor air quality, greenhouse gases, utility resilience and security, transportation, environmental management system, community planning, and measurement and verification (see **Appendix A**). Each action plan is tied to at least one of the goals or objectives and provides a quantifiable step in the overall sustainability program. The action plans are prioritized via a Capital Investment Strategy that leads to an Implementation Plan for the next 40 years. Implementation of the SP projects would allow the installation to increase its sustainability and meet or exceed relevant federal sustainability mandates (DLA 2013b). The SP is only for projects at Defense Distribution Center, Susquehanna (i.e., no sharing of projects at other installations), and has not been updated since completion in 2013.

### 2.1.4 Integrated Pest Management Plan

The IPMP is the installation's plan for its pest management program. It provides a sustainable approach for managing pests by using a combination of biological, cultural, physical, and chemical tools. DLA would use these tools in a manner that minimizes economic, health, and environmental risks. Nonchemical pest-control efforts are proposed to be used to the maximum extent possible prior to the application of pesticides. The IPMP describes methods for detecting, monitoring, and controlling specific pests, as well as administrative, safety, and environmental requirements. The IPMP identifies each pesticide proposed for use and includes a 5-year plan with six actions for the pest management program (see **Appendix A**). Implementation of the IPMP projects would reduce reliance on pesticides; enhance environmental protection; and help ensure pests don't interfere with the military mission, lower morale, damage real property, increase maintenance costs, or expose personnel to disease. The IPMP is reviewed and updated annually (DLA 2015b).

### 2.1.5 Integrated Natural Resources Management Plan

The INRMP is the installation's plan for managing its natural resources while ensuring the success of the military mission. It uses adaptive management to maintain sustainable land use on the installation. The INRMP includes 35 proposed projects in the areas of ecosystem management, threatened and endangered species and species of concern, wetlands and waters of the United States, watershed management, fish and wildlife management, habitat management, exotic and invasive species management, grounds maintenance, conservation law enforcement, outdoor recreation and public access, and public outreach (see **Appendix A**). These projects are designed to ensure minimal impact on the military mission while providing for the management and stewardship of natural resources and the conservation and enhancement of existing ecosystems on the installation. Implementation of the INRMP projects would support DLA's continuing need to ensure the safety and efficiency of its mission while practicing sound natural resources stewardship and complying with environmental policies and regulations. The INRMP must be reviewed annually by the installation; reviewed no less than every 5 years by DLA, USFWS, and the state signatory agencies; and updated whenever there is a modification to the installation's mission or there is a substantial change to the natural or cultural resources of the installation (DLA 2016).

## 2.2 No Action Alternative

Under the No Action Alternative, DLA would not implement the Master Plan or projects in the component plans. DLA would continue to use and maintain existing undersized and inefficient buildings and infrastructure, and it would not implement the installation development projects, sustainability improvements, and natural resources projects in the Master Plan and component plans. Implementation of the No Action Alternative would hinder the installation's ability to meet its current and future mission requirements and would not meet the purpose of and need for the Proposed Action, as described in **Section 1.2**.

## 2.3 Alternatives Considered but Eliminated from Detailed Analysis

The Master Plan includes an evaluation of three alternatives (i.e., Courses of Action [COA] 1, 2, and 3) for the Future Development Plan. Development of the alternatives considered the functional and spatial relationships of installation land uses, existing facility locations and road and utility systems, and the existing on- and off-installation environment. Evaluation of the alternatives considered new mission requirements; improvements to mission support facilities; implementation of the Installation Design Guide; potential impacts on environmental resources and installation support capabilities; and the ability to resolve deficiencies, eliminate excesses, and preserve room for growth.

COA 1 is implementation of the existing MILCON program. COA 2 is implementation of the existing MILCON program and additional projects identified during the installation's planning charrette process for the Master Plan. COA 3 is implementation of a list of potential facility automation projects. DLA selected COA 2 as the preferred alternative, which became the Future Development Plan because it best met the planning vision, goals, and objectives of the installation. COA 1 does not consider the additional planning charrette projects and, therefore, is not flexible enough to meet future mission changes. COA 3 consists of five long-term, conceptual automation projects with no project locations or details and, therefore, is not ready for analysis. Consequently, COAs 1 and 3 are not analyzed in this EA.

### 3 Affected Environment and Environmental Consequences

All environmental resource areas were initially evaluated for potential consequences from the Proposed Action. The initial evaluation determined that some environmental resource areas would not be impacted or would have clearly insignificant effects. These environmental resource areas are not analyzed in detail in this EA and are described as follows:

***Aesthetics and Visual Resources.*** The Proposed Action would not adversely affect the aesthetics or visual appeal of Defense Distribution Center, Susquehanna. The new facilities would be constructed in appropriate districts and land use areas and follow the design guidelines in the Installation Design Guide, which would ensure a consistent and coherent architectural character throughout the installation. Landscaping would be used to provide an attractive and professional looking installation using plants, shrubs, and trees to blend with the surrounding environment. Many of the proposed projects (e.g., new construction, building repair, placing critical systems underground, and daylighting desired trees) would enhance the existing aesthetics. MILCON Project Q (solar farm on landfill) would occur on a topographically low area within the installation and is surrounded by trees to the west, east, and south and by industrial buildings to the north. Therefore, long-term, beneficial effects on aesthetics and visual resources would be expected from the Proposed Action, and a detailed aesthetics and visual resources analysis is not included in this EA.

***Coastal Zone Management.*** The Proposed Action would not be sited within a coastal zone, nor would it impact a coastal zone.

***Cultural Resources.*** The Proposed Action would have no effect on any archaeological or architectural resources listed or eligible for listing in the National Register of Historic Places (NRHP). There are no architectural resources at the installation that are listed or eligible for listing in the NRHP. Only one archaeological site at the installation has been determined eligible for listing in the NRHP, archaeological site 36YO0337. This resource, designated as being off limits for any activity apart from mowing, is more than 1,200 feet from the proposed projects with ground disturbance.

The Capital City Airport historic district (historic-age terminal and hangars) was determined eligible for listing in the NRHP. The closest areas of the Proposed Action are more than 2,700 feet from the Capital City Airport historic district. The installation has been characterized by warehouses, administrative buildings, and associated infrastructure since 1917. Therefore, based on the distance and the historic use of the installation, the siting and design of warehouses and other structures associated with the Proposed Action would have no effect on the NRHP-eligible historic district at the Capital City Airport. Additionally, the Proposed Action would have no effect on any modern sites of cultural significance to the community.

***[[Preparer's Note: Text regarding consultation with the Pennsylvania State Historic Preservation Office and Native American tribes will be added here upon completion of consultation.]]***

***Health and Safety.*** The Proposed Action would result in beneficial effects on health and safety from repairing and replacing damaged infrastructure and incorporation of current design standards and antiterrorism/force protection criteria into the proposed structures. To minimize the probability of

injury, DLA personnel and contractors would follow applicable federal and state regulatory requirements during construction and would be required to wear appropriate personal protective equipment such as ear and eye protection, steel-toed boots, hard hats, and gloves. Additionally, contractors would be required to adhere to federal, state, and local regulations when handling hazardous materials and hazardous wastes. The Master Plan projects would occur over 20 years and the projects in the component plans would occur over the next 5 to 40 years (varies by component plan), which would limit the number of multiple, concurrent construction projects. Only negligible, beneficial and adverse effects on health and safety would be expected from the Proposed Action; therefore, a detailed analysis of health and safety is not included in this EA.

**Socioeconomics – Demographics, Employment and Economic Activity, Public Services.** The Proposed Action would have no effects on regional demographics and, therefore, no change in demand for public services. No additional DLA personnel would be employed to support the Proposed Action. Based on the timing of the proposed projects, construction would have short-term, direct and indirect, negligible, beneficial effects on employment and the local economy through increased employment and the purchase of goods and services. No long-term effects on population, employment and economic activity, or demand for public services would be expected from the Proposed Action. Therefore, a detailed socioeconomic analysis of demographics, employment and economic activity, and public services is not included in this EA.

**Environmental Justice.** The Proposed Action does not involve activities that would result in disproportionately high and adverse human health and environmental impacts on minority, low income, or child populations. Impacts from the Proposed Action would be limited to the installation and would not affect off-installation communities. Therefore, a detailed environmental justice analysis is not included in this EA.

The initial evaluation for potential consequences from the Proposed Action also determined that there is the potential for significant effects on other environmental resource areas; therefore, these environmental resource areas are analyzed in detail in this EA. The detailed analysis in this EA determined that no significant effects from the Proposed Action and No Action Alternative would occur. The following sections describe the non-significant effects that would result from the Proposed Action.

## 3.1 Airspace Management

### 3.1.1 Existing Conditions

The Federal Aviation Administration (FAA) secures specific airspace and zones at and around airports through Federal Aviation Regulation Part 77 (14 CFR § 77), *Safe, Efficient Use, and Preservation of the Navigable Airspace*, and FAA Advisory Circular 50/5300-13A, *Airport Design*. The areas defined in these documents protect specific airspace and ground areas at and near airports.

Federal Aviation Regulation Part 77 defines the types and dimensions of navigable airspace (imaginary surfaces) overlying and surrounding a public airport that must be kept free of obstructions and development that could conflict with aircraft take-off and landing. The most critical of these imaginary surfaces is the approach surface, which must be clear of all objects to ensure safe landing. The approach surface is airspace aligned on the runway extended centerline that slopes up

and outward from the end of the primary surface. The approach surface slope ratio varies according to the approach plan defined for an airport, but can be 20:1, 34:1, or 50:1.

FAA Advisory Circular 50/5300-13A establishes airport design standards with specified clear, or obstacle-free, zones and safety areas along and beyond the extents of an airport runway and taxiway. The Runway Protection Zone (RPZ) is a trapezoidal area at ground level that underlies the approach surface. The RPZ begins 200 feet beyond the end of a runway and extends at least 1,000 feet. Activities and development in the RPZ are controlled by an airport to enhance the safety and protection of people and property on the ground. Ideally, an RPZ is clear of all aboveground objects; however, where this is impractical, the RPZ should be clear of all facilities supporting incompatible activities. In this case, some land uses, including objects and activities, may be permitted if they do not obstruct aircraft during take-off or landing or pose a safety threat to people or property. Residences and places of public assembly are typically prohibited land uses in the RPZ. It is the responsibility of the airport owner to protect the RPZs from obstructions and incompatible land uses (FAA 2014).

*Programmatic Projects.* Capital City Airport is adjacent to the northwestern boundary of the installation. The airport maintains two asphalt runways (Runway 08/26 and Runway 12/30) and accommodates smaller general aviation aircraft, but also military helicopters and U.S. Air Force C-130s and C-17s (under dry, clear conditions only). Currently, the RPZs for Runway 12/30 and Runway 08/26 and approach surfaces for Runway 30 and 26 (i.e., eastern ends of Runway 12/30 and Runway 08/26, respectively) extend onto the installation. The visual approach slopes for both runways rise at a 20:1 slope beginning 200 feet beyond the ends of the runways (DLA 2013c). Buildings 12 and 14 and several poles are within the RPZ for Runway 30, but no existing facilities or structures intrude into the slope of the approach surface. These facilities and structures are considered obstructions by the Capital City Airport and, therefore, are equipped with obstruction lights that alert aircraft of their presence. Capital City Airport places restrictions on development within the RPZs. The installation is aware of these restrictions and has committed to complying with FAA requirements on future projects (DLA 2019).

*MILCON Project H.* The site of MILCON Project H is approximately 800 feet east/southeast of the end of Runway 12/30 at Capital City Airport. This site is partially within the RPZ for Runway 12/30 and the approach surface for Runway 30.

### 3.1.2 Environmental Consequences

#### Proposed Action

*Programmatic Projects.* Long-term, minor, beneficial effects on airspace management would result from implementation of the Master Plan and projects in the component plans. Building 14, which is within the RPZ for Runway 12/30 and is considered an obstruction, would be demolished as part of a SRM project in the Master Plan. Demolition of Building 14 would permanently remove this obstruction, resulting in a long-term, beneficial effect. MILCON Projects I, J, K, and L underlie the approach surface for Runway 12/30, but are not within the RPZ for Runway 12/30. The design of these warehouses would comply with FAA requirements, so the structures would not intrude into the approach surface slope or require any changes to the existing airspaces surrounding Capital City Airport. Therefore, there would be no effects on airspace management from siting and design of these MILCON projects. Implementation of effective wildlife management strategies identified in the INRMP would minimize the Bird/Wildlife Aircraft Strike Hazard risk for the Capital City Airport.

MILCON Project Q (solar farm) is in the southeastern portion of the installation. Solar photovoltaic projects are generally a compatible land use at and near airports because of their low profile; however, potential issues include communications interference and reflectivity (FAA 2018). The proposed site of MILCON Project Q is more than 3,500 feet southeast of Capital City Airport at its closest point. Setbacks of 150 to 500 feet between solar photovoltaic arrays and communications equipment are typically sufficient to prevent communications interference (NREL 2017). Therefore, the distance of the proposed solar farm from Capital City Airport would prevent interference with airport communications. Potential effects of solar panel reflectivity include glint and glare. The amount of light reflected off a solar panel depends on the amount of sunlight hitting the surface, its surface reflectivity, geographic location, time of year, cloud cover, and solar panel orientation. However, solar photovoltaic panels are constructed of dark, light-absorbing materials and covered with an anti-reflective coating designed to maximize absorption and minimize reflection (FAA 2018). The design of the proposed solar farm would employ best management practices (BMPs) to assess and avoid or reduce potential glint and glare effects. Therefore, it is unlikely the siting and design of MILCON Project Q would affect airspace management.

*MILCON Project H.* No effects on airspace management would result from construction and operation of MILCON Project H. Future action by the Capital City Airport might include an updated approach surface for its runways, including Runway 12/30, that would have a slope of 34:1 based on the requirements outlined in FAA Advisory Circular 50/5300-13A (DLA 2013c). MILCON Project H (Building 734) would be designed to comply with the updated approach surface. Based on an anticipated height of approximately 20 feet, the GPW would be sited approximately 600 feet east of the western end of the MILCON Project H site to avoid incursion into the 34:1 approach surface. Although the MILCON Project H site is partially within the RPZ for Runway 12/30, the GPW would be outside of the RPZ because it would be approximately 600 feet west of the western end of the site. If the GPW must be sited within the RPZ, DLA would coordinate with FAA to conduct additional evaluation of the potential obstruction. Because the siting and design of MILCON Project H would be outside of the modified approach surface and the RPZ, it would not represent a threat to flight safety. Additionally, construction and operation of MILCON Project H would not require any changes to existing airspaces; therefore, MILCON Project H would not affect airspace management.

### No Action Alternative

Existing conditions would remain the same as described in **Section 3.1.1**. Therefore, no effects on airspace management would occur. Building 14 would not be demolished and, therefore, would continue to be within the RPZ for Runway 12/30; however, it is a compatible land use and has appropriate obstruction lighting.

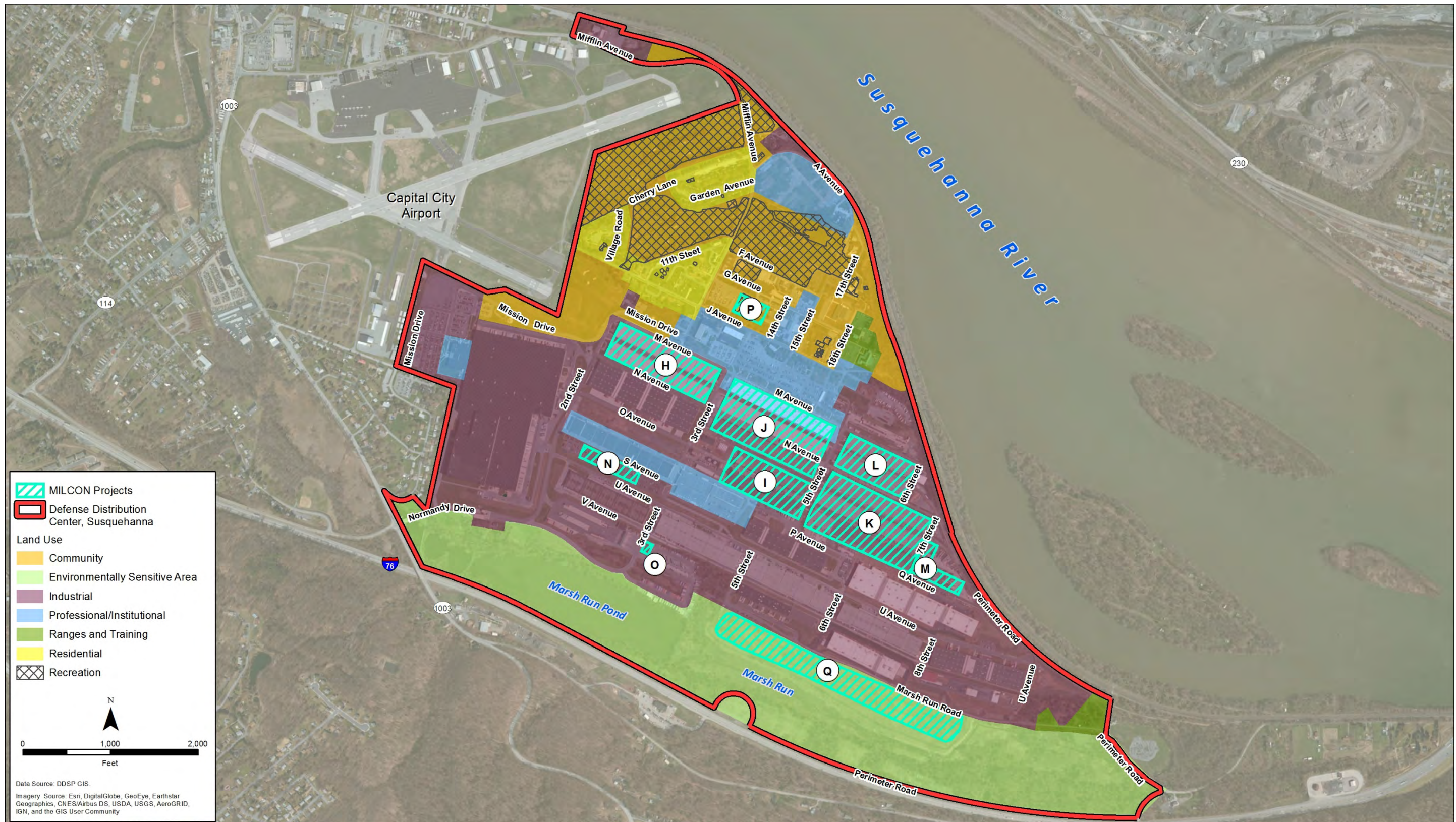
## 3.2 Land Use and Recreation

### 3.2.1 Existing Conditions

*Programmatic Projects.* There are six land use categories designated within four districts on the installation. The land use categories include community, industrial, residential, professional/institutional, ranges and training, and environmentally sensitive areas (see **Figure 3-1**). In October 2018, DLA began demolition of 110 military family housing units on the installation. DLA is retaining the remaining 14 military family housing units for administrative purposes. This action was previously analyzed under NEPA (DLA 2017a). The districts on the installation, which are based



Figure 3-1. Land Use Areas and Recreation Areas





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on geographical features, land use, building types, and transportation networks, include Administration/Community District, Industrial/Warehouse District, Infrastructure District, and Natural Area District. Land use categories within the Administration/Community District are primarily community and residential, but also include industrial, professional/institutional, and ranges and training. Land use categories within the Industrial/Warehouse District are primarily industrial, but also include professional/institutional. Land use categories within the Infrastructure District are primarily community, but also include industrial. The Natural Area District consists of the environmentally sensitive area land use category (DLA 2019).

Nearly half of the installation is dedicated to industrial uses, which is consistent with its mission. The installation is generally well organized and the industrial uses are consolidated and separated from the other land uses. Residential, community, and professional/institutional uses are interspersed, creating a mixed-use development pattern. The southern portion of the installation is designated as an environmentally sensitive area. This area includes wetlands and a closed landfill. These factors make the environmentally sensitive area unsuitable for most development. Land use in the region is a mix of urban, industrial, suburban, and rural development. Capital City Airport is on the northwestern boundary of the installation (DLA 2019).

Recreational opportunities on the installation include a fitness center, outdoor pool, playground areas, baseball fields, picnic areas, tennis courts, roller hockey court, walking/jogging path, and a golf course with club house (see **Figure 3-1**). Additional recreational opportunities include fishing at Marsh Run Pond and the adjacent fishing pond and hunting within the vegetated area surrounding Marsh Run and Marsh Run Pond (DLA 2016).

MILCON Project J is in the Industrial/Warehouse District, primarily within the industrial land use area and a small portion within the professional/institutional land use area. MILCON Projects I and K through O are in the Industrial/Warehouse District within the industrial land use area. MILCON Project P is in the Administration/Community District within the community land use area and includes the tennis courts and roller hockey court. MILCON Project Q is in the Natural Area District within the environmental sensitive area, as well as within the designated hunting area.

*MILCON Project H.* MILCON Project H is in the Industrial/Warehouse District within the industrial land use area. No recreation areas are adjacent to MILCON Project H.

### 3.2.2 Environmental Consequences

#### Proposed Action

*Programmatic Projects.* Long-term, minor, beneficial effects on land use and long-term, minor, beneficial and adverse effects on recreation would be anticipated. The new facilities would be sited in appropriate districts and land use areas and in accordance with the Master Plan and SP. Facilities would be designed to meet security and vehicle standoff requirements and applicable Leadership in Energy and Environmental Design standards complying with the Installation Design Guide. They would be constructed consistent with the Master Plan and the component plans. No districts or land use categories would change.

Siting of MILCON Project P would require the demolition or relocation of the tennis courts and roller hockey court within the project area. Siting of MILCON Project Q would reduce the area available for hunting on the installation.

SRM projects that would benefit recreation include adding a new running track; repairing and upgrading sidewalks; and improvements to the physical fitness center (Building 320), Riverview Golf Club (Building 300) and maintenance building (Building 301), and a picnic pavilion (Building 302). Implementation of the projects in the INRMP would increase recreation opportunities on the installation (e.g., public access protocol, watchable wildlife program).

*MILCON Project H.* Effects on land use would be the same as those described for the Programmatic Projects. No effects on recreation are anticipated.

### No Action Alternative

Existing conditions would remain the same as described in **Section 3.2.1**. Therefore, no effects on land use and recreation would occur.

## 3.3 Noise

### 3.3.1 Existing Conditions

Noise can be defined as unwanted sound and can result in impacts on humans. The standard unit of measure for sound is decibels (dB), and the A-weighted decibel (dBA) is a unit of measurement that represents how humans respond to sound.

*Programmatic Projects.* The ambient noise environment at the installation is affected primarily by warehouse operations; automobile, truck, and rail traffic; and aircraft noise from Capital City Airport, which is immediately northwest of the installation. Noise contours have not been completed for the Capital City Airport (DLA 2019); however, based on the locations of the runways, it is assumed that some areas of the installation are within the airport's noise contours. Given these sources of noise at the installation, the ambient noise environment on the installation resembles an industrial setting. Typical daytime outdoor ambient noise levels in industrial areas are approximately 67 dBA (Engineering Tool Box 2003). On-installation noise sensitive receptors include the post chapel and child development center in the north-central portion of the installation. The military family housing units are no longer occupied and are in the process of being demolished or retained for administrative purposes. The installation is separated from off-installation noise sensitive receptors by railroad tracks and the Susquehanna River to the north and east, the Pennsylvania Turnpike to the south, and the Capital City Airport to the northwest. Off-installation residences are adjacent to the southwest of the installation.

*MILCON Project H.* The ambient noise environment at the proposed site of MILCON Project H is the same as that described in *Programmatic Projects*. The closest on-installation noise sensitive receptors are the post chapel and child development center approximately 600 feet and 1,000 feet northeast of the site of MILCON Project H, respectively. The closest off-installation noise sensitive receptor is a residential neighborhood approximately 1,800 feet southwest of MILCON Project H.

### 3.3.2 Environmental Consequences

#### Proposed Action

*Programmatic Projects.* Long-term, minor, adverse and beneficial effects on the noise environment would be expected from implementation of the Proposed Action. The MILCON and SRM projects identified in the Future Development Plan include design and siting features to reduce noise levels



from future development resulting in a long-term, beneficial effect on the noise environment. These projects would be designed to comply with the Installation Design Guide, which includes noise abatement techniques such as berms, sound barrier walls, and planting of trees and other vegetation as noise buffers in specific areas to screen traffic and industrial areas from surrounding sensitive land uses (DLA 2013d). Additionally, the MILCON projects, which are primarily industrial uses, would be sited within the installation’s Industrial/Warehouse District to allow for consolidation and separation of these higher noise generating uses from lesser noise areas.

Implementation of the NZEP projects would include siting a new, different, permanent source of noise (15-megawatt biomass plant) on the installation resulting in a long-term, adverse effect on the noise environment. Biomass plants burn biomass fuel to heat water and produce steam that turns an electricity-generating turbine. During this process, pressurized steam vents periodically, which creates noise. In accordance with Department of Defense Instruction 6055.12, *Hearing Conservation Program*, equipment considered for purchase should have the lowest sound emissions levels that are technologically and economically feasible, which would include installation of vent and blow-off silencers for the proposed biomass plant. Sufficient space exists on the installation to site the biomass plant at a proper distance from off-installation noise sensitive receptors, such as residences, to ensure that there would be no significant noise effects on these receptors.

*MILCON Project H.* Short-term, minor, adverse effects on the ambient noise environment would occur due to construction of MILCON Project H. Increases in noise levels would occur intermittently based on the construction schedule and activity, and would vary depending on the type of construction equipment being used. Examples of noise levels associated with typical construction equipment are presented in **Table 3-1**.

**Table 3-1. Noise Level Ranges of Typical Construction Equipment**

Construction Equipment	Noise Levels at 50 Feet (dBA)
Trucks	82–95
Cranes (moveable)	75–88
Saws	72–82
Pneumatic Impact Equipment	83–88
Jackhammer	81–98
Pumps	68–72
Generators	71–83
Compressors	75–87
Front Loader	73–86
Backhoe	73–95
Scraper/Grader	80–93
Heavy Truck traveling >35 miles per hour	87

Sources: USEPA 1971, FHWA 2006

Note: Construction equipment with noise control devices (e.g., mufflers) and use of sound barriers would result in lower noise levels than shown in this table.

Noise levels decrease with distance. **Table 3-2** provides predicted construction noise levels at given distances from the work site, based on the examples of a generator, front loader, and heavy truck. During construction, trucks would travel to and from the work site. Because of the existing ambient noise environment of the MILCON Project H site and surrounding areas, negligible effects would be expected from the increase in truck noise because those sounds would not incrementally increase existing ambient noise levels. Equipment noise levels would be short-term and intermittent, and, using the examples in **Table 3-2**, equipment noise would attenuate to below 65 dBA within 800 feet from the source. Post chapel users could experience short-term, intermittent noise during construction. Noise from heavy truck traffic could be more than 65 dBA. However, heavy truck traffic would be intermittent and temporary, and would be a minor contributor to the existing heavy truck traffic that is part of the installation’s ambient noise environment.

**Table 3-2. Predicted Noise Levels from Construction**

Distance from Noise Source (feet)	Point Source Noise Level (dBA)		Line Source Noise Level (dBA)
	Generator	Front Loader	Heavy Truck (>35 mph)
50	83	86	87
100	77	80	84
200	71	74	81
400	65	68	78
800	59	62	75
1,600	53	56	72
3,200	47	50	69

Note: Noise generally attenuates by 6 dBA with each doubling of distance from a point source, such as a generator, and by 3 dBA with each doubling of distance from a line source, such as truck traffic (USEPA 1971).

Construction activities usually require the use of several pieces of equipment simultaneously. In general, the addition of a piece of equipment with identical noise levels to another piece of equipment would add approximately 3 dB to the overall noise environment (TRS Audio undated). Cumulative noise associated with multiple pieces of construction equipment operating simultaneously would increase the overall noise environment by a few dB over the noisiest equipment, depending on the noise levels; therefore, additional effects would be negligible to minor.

Noise generation would only occur for the duration of construction and would be confined to normal workdays and working hours (i.e., 7 a.m. to 5 p.m.). All applicable noise laws and guidelines would be followed to reduce effects from noise produced by construction. Additionally, workers would be required to use proper personal hearing protection to limit exposure and would use the appropriate noise attenuation equipment. For the reasons discussed above, including the existing ambient noise levels already occurring on the installation, adverse effects from noise associated with the Proposed Action would be minor.

### No Action Alternative

Existing conditions would remain the same as described in **Section 3.3.1**. Therefore, no effects on noise would occur.

## 3.4 Air Quality

### 3.4.1 Existing Conditions

National Ambient Air Quality Standards have been established for the six criteria pollutants: ozone, which is regulated through its precursors nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs); carbon monoxide (CO); nitrogen dioxide; sulfur dioxide; particulate matter, measured as equal to or less than 2.5 microns in diameter (PM<sub>2.5</sub>) and equal to or less than 10 microns in diameter (PM<sub>10</sub>); and lead. York County is designated by the U.S. Environmental Protection Agency (USEPA) as maintenance for PM<sub>2.5</sub> and unclassified/attainment for all other criteria pollutants (USEPA 2019a).

Defense Distribution Center, Susquehanna has a Title V operating permit (No. 67-05041) effective November 28, 2016, and expiring January 31, 2021. Air emissions from the installation are primarily produced from burning fuel oil No. 2 and natural gas in boilers and diesel in emergency generators and from industrial operations such as degreasing and woodworking. The majority of the installation's air emissions come from the operation of the central heat plant (PADEP 2016).

Ongoing global climate change has the potential to increase average temperatures, change precipitation patterns, alter the frequency and severity of flooding and drought events, and disrupt vegetation ecosystems in the northeastern United States, including in York County, Pennsylvania. These changes to the regional climate could lead to impairments of public health, damaged infrastructure, and lost agricultural productivity (Melillo et al. 2014).

### 3.4.2 Environmental Consequences

#### Proposed Action

*Programmatic Projects.* Short- and long-term, minor, adverse and beneficial effects on air quality would occur from implementation of the Master Plan and projects in the component plans. Construction and demolition for MILCON Projects I through Q and the SRM projects of the Master Plan as well as for the projects of the NZEP, SP, IPMP, and INRMP would produce temporary air emissions from such activities. Based on the timing of these projects, these air emissions would be staggered over many years as the various construction projects are implemented. MILCON Projects I through L would produce the greatest air emissions because of their larger footprints. Each of these project's construction air emissions and impacts on air quality would be similar to that described below for MILCON Project H.

While full implementation of all of the projects in the Master Plan would result in a net increase in building space at the installation, it would replace older and inefficient buildings with modern, energy-efficient, sustainable buildings, which would translate into a potential reduction in air emissions from heating these structures. The Master Plan also proposes a MILCON project to install a solar farm (i.e., MILCON Project Q) and SRM projects to replace electricity generators on the installation. Greater use of solar energy by the installation would lessen its dependence on fossil fuel-based energy and translate into beneficial effects on air quality. Replacement of older, more emissive generators with newer, less emissive generators would also translate into beneficial effects on air quality. The Master Plan and SP also encourage the future development of the installation around transit and non-motorized transportation systems. This type of development would reduce potential

air emissions by discouraging personnel from driving to destinations and encouraging pedestrian, bicycle, and transit movement.

The NZEP and SP aim to reduce the amount of fossil fuel-based energy consumed by the installation to achieve a net-zero energy footprint that meets sustainability mandates. The NZEP and SP identify numerous actions to meet these goals including implementing building energy conservation measures, vehicle fleet and equipment reductions and replacements, microgrid development, and renewable energy projects such as the use of transpired solar collectors and a biomass power plant. Therefore, implementation of the NZEP and SP projects would reduce fossil fuel energy consumption, which would reduce the amount of air emissions produced by the installation. Other action plans in the SP take aim at improving indoor air quality and reducing greenhouse gases. A reduction in carbon dioxide equivalent (CO<sub>2</sub>e) emissions from the operational activities of the installation would negligibly reduce the installation's contribution to the global greenhouse gas inventory and the ongoing effects of global climate change. Implementation of the projects in the IPMP and INRMP would have no direct effects on air quality.

All of the MILCON, SRM, and component plans projects would be sited outside of mapped 100-year floodplains, so no impacts on installation infrastructure are expected within the next 20 years from the potential for increased frequency and severity of flooding associated with climate change. However, if increasing rainfall frequency or intensity or other climate changes increase flooding risk in the short- or long-term, the areas of the installation most likely to be impacted are along Marsh Run and the Susquehanna River. Adaptation or mitigation options may include installing the solar photovoltaic panels of MILCON Project Q onto taller mounts so that the panels would be above the potential future floodplain or relocating projects away from existing surface water features where flooding would be most likely. The installation has limited natural ecosystems; therefore, impacts on these resources from the MILCON, SRM, and component plans projects in concert with global climate change is anticipated to be negligible.

*MILCON Project H.* Short-term, minor, adverse effects on air quality would result from construction of the proposed GPW, Building 734 at the Building 5/6 site. Air emissions from construction would be temporary in nature and conservatively assumed to occur only during 2025 for this air quality analysis. Sources of construction air emissions would include the operation of heavy equipment, workers commuting daily to and from the project area in their personal vehicles, heavy duty diesel vehicles hauling construction supplies to and construction wastes from the project area, and ground disturbance. Criteria pollutants and greenhouse gases would be produced from the combustion of fuels. Particulate matter air emissions, such as fugitive dust, would be produced from ground-disturbing activities and the combustion of fuels. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of activity. Fugitive dust air emissions would be greatest during the initial site grading and excavation and would vary day to day depending on the work phase, level of activity, and prevailing weather conditions. Particulate matter emissions would also be produced from the combustion of fuels in vehicles and equipment needed for construction. Construction would incorporate BMPs and environmental control measures (e.g., wetting the ground surface) to minimize fugitive particulate matter air emissions. Additionally, work vehicles are assumed to be well maintained and to use diesel particulate filters to reduce particulate matter air emissions.

Long-term, negligible to minor, adverse effects on air quality would result from heating the proposed GPW. There are two possible heating methods that could be selected during facility design: connect to the installation's central heat plant or install a natural gas-fired furnace. Negligible effects on air





quality would result from connecting to the central heat plant because the connection of another building would only negligibly increase air emissions from the plant’s operation. Minor effects on air quality would result from using a natural gas-fired furnace because quantifiable new air emissions would be produced from the operation of this furnace. Additionally, the installation’s Title V operating permit may need to be revised to account for the new furnace. Air emissions from heating would begin in 2026 and continue indefinitely.

The U.S. Air Force’s Air Conformity Applicability Model, version 5.0.12b, was used to estimate air emissions from constructing the proposed GPW and heating it with an industrial, natural gas-fired furnace. These air emissions are summarized in **Table 3-3** with applicable significance criteria.

**Table 3-3. Air Emissions from MILCON Project H**

	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	NH <sub>3</sub>	CO <sub>2e</sub>
Constructing (2025)	6.112	5.566	6.425	0.018	33.844	0.208	0.008	1,772.7
Heating (2026 and later)	0.124	2.258	1.896	0.014	0.172	0.172	<0.001	2,717.9
Significance threshold	100 <sup>(1)</sup>	100 <sup>(1)</sup>	100 <sup>(2)</sup>	100 <sup>(1)</sup>	100 <sup>(2)</sup>	100 <sup>(1)</sup>	100 <sup>(1)</sup>	NA

Notes: All values are in tons per year (tpy). Lead emissions are not included because they are negligible for the types of emission sources under this Proposed Action.

<sup>(1)</sup> = General Conformity is applicable to these pollutants.

<sup>(2)</sup> = General Conformity is not applicable to these pollutants.

Key: SO<sub>x</sub> = sulfur oxides, NH<sub>3</sub> = ammonia, CO<sub>2e</sub> = carbon dioxide equivalent, NA = not applicable

As noted in **Section 3.4.1**, York County is designated by USEPA as maintenance for PM<sub>2.5</sub>. Per 40 CFR § 93.153(b)(2), the General Conformity Rule is potentially applicable to direct emissions of PM<sub>2.5</sub> and its precursors sulfur dioxide, NO<sub>x</sub>, VOC, and NH<sub>3</sub>. For each of these pollutants, 100 tpy is the *de minimis* level threshold that would trigger a conformity analysis and is used as a threshold of significance in this air quality analysis. **Table 3-3** includes a comparison of the estimated annual emissions of PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub>, VOC, and NH<sub>3</sub> to 100 tpy. Emissions of each of these air pollutants would be below *de minimis* threshold limits; therefore, a General Conformity Determination would not be required and less than significant emissions of these air pollutants would be produced.

Emissions of CO and PM<sub>10</sub> would not be subject to the General Conformity Rule because York County is designated by USEPA as unclassified/attainment for these pollutants. Nevertheless, a comparison of annual CO and PM<sub>10</sub> emissions to 100 tpy is used as a threshold of significance in this air quality analysis. As show in **Table 3-3**, constructing and heating the proposed GPW would produce less than significant CO and PM<sub>10</sub> air emissions.

Constructing the proposed GPW would emit approximately 1,773 tons of CO<sub>2e</sub> during 2025, and operating the proposed GPW would emit approximately 2,718 tons of CO<sub>2e</sub> from 2026 onward. By comparison, 2,718 tons of CO<sub>2e</sub> is approximately the greenhouse gas footprint of 523 passenger vehicles driven for 1 year or 295 homes’ energy use for 1 year (USEPA 2018). As such, these annual emissions of greenhouse gases would not contribute meaningfully to the potential effects of global climate change. The potential direct and indirect changes to York County’s climate from global climate change are unlikely to impact DLA’s ability to construct and operate the proposed GPW.

It is unlikely the ongoing climate changes to regional climate patterns noted in **Section 3.4.1** would impair construction and operation of MILCON Project H, which would be designed to comply with DLA energy guidelines and LID, Energy Policy Act, and EISA requirements.

## No Action Alternative

Existing conditions would remain the same as described in **Section 3.4.1**. Therefore, no effects on air quality would occur.

## 3.5 Geological Resources

### 3.5.1 Existing Conditions

#### Proposed Action

##### *Programmatic Projects*

*Geology.* Approximately 75 percent of the Defense Distribution Center, Susquehanna lies within the Great Valley section of the Appalachian Ridge and Valley physiographic province, which is characterized by wide, fertile lowland primarily underlain with limestone bedrock. The southeastern portion of the installation lies within the Triassic Lowlands of the Piedmont physiographic province, which has more relief than the rest of the installation and is underlain primarily by coarse sandstone bedrock. In the southern portion of the installation, Marsh Run has eroded a deep stream channel into the local bedrock (DLA 2016).

*Topography.* Most of the installation, containing the administrative and warehouse areas, is on a flat plateau that drops off sharply to the Susquehanna River. Along the western and southern boundaries of the installation is swampy lowland that contains Marsh Run and Marsh Run Pond. Along the eastern and northern boundaries of the installation are escarpments that abruptly rise between 20 and 80 feet above the Susquehanna River's surface. In general, the developed portions of the installation have been graded to accommodate past and current development. The area surrounding the installation is rolling to moderately hilly (DLA 2016).

*Soils.* The majority of the soil on the installation is classified as Urban Land by the Natural Resources Conservation Service (NRCS). The Urban Land classification means that the natural soil structure largely has been eliminated because of widespread man-made development and impervious surfaces. NRCS does not provide a characteristics or engineering limitations summary for soil with such designation. Detailed onsite characterizations would be necessary to determine potential uses and limitations of this soil (DLA 2016; NRCS 2019). Further soil restrictions are described in **Section 3.9**, Hazardous Materials and Wastes.

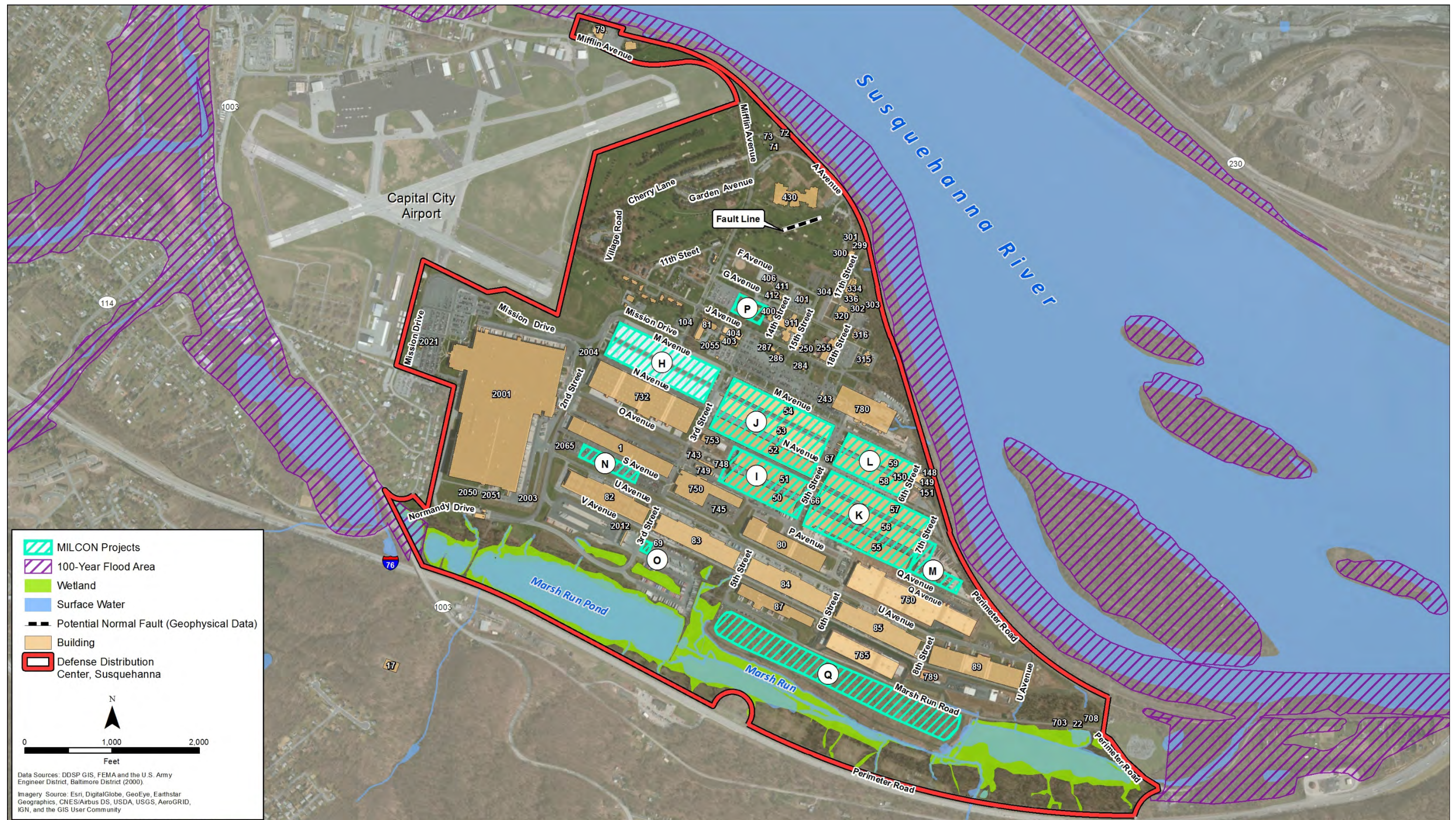
*Geologic Hazards.* The installation has a low potential for earthquake hazards with a seismic hazard rating of approximately 8 to 16 percent gravity. This means that little to moderate damage to buildings would be expected during an earthquake that has a 2 percent chance of occurring during a 50-year period. A fault lies across the northwestern portion of the installation (see **Figure 3-2**). Building heavily loaded structures in and across the fault zone is prohibited (DLA 2016).

##### *MILCON Project H*

*Geology.* The geology of the MILCON Project H site is similar to that described for Programmatic Projects.



Figure 3-2. Geologic Hazards, Surface Waters, Wetlands, and Floodplains





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*Topography.* MILCON Project H would occur in the central administration area of Defense Distribution Center, Susquehanna, which has a higher elevation, at approximately 385 feet above mean sea level, than areas to the north and south. The terrain slopes away from the central administration area to the north and south at less than 10 percent. The central administration area has been graded to accommodate past and current development.

*Soils.* The MILCON Project H site is on soil that is classified as Urban Land by NRCS.

*Geologic Hazards.* Geologic hazards for the MILCON Project H site are similar to those described for Programmatic Projects.

### 3.5.2 Environmental Consequences

#### Proposed Action

##### *Programmatic Projects*

*Geology.* No effect on geology would be expected. No unique geological features or regional lithology, stratigraphy, or geological structure would be affected by implementation of MILCON Projects I through Q, the SRM projects, or the projects in the component plans.

*Topography.* Long-term, negligible, adverse effects on topography would occur. MILCON Projects I through Q and the SRM projects would occur primarily in developed areas; therefore, minimal changes in topography would be expected. Implementation of the projects in the component plans would occur throughout the installation and have no effect on topography because these projects would have little to no ground disturbance.

*Soils.* Long-term, minor, adverse effects on soils would be expected from implementation of MILCON Projects I through Q, the SRM projects, and projects in the component plans. The proposed projects are underlain by Urban Land soils, which have been disturbed by previous activities and are not designated farmland of statewide importance or prime farmland. The timing of the projects, use of BMPs, and incorporation of soil erosion- and sediment-control measures into site plans would assist in limiting erosion and sediment production.

Long-term, minor, beneficial effects on soils would result from implementation of projects in the INRMP and SP. The INRMP projects include a soil erosion and sedimentation program, monitoring of soil conditions to identify potential problem areas, soil conservation measures for exposed soils, and avoidance of activities likely to result in soil erosion, all of which would result in reduced impacts on soils and reduce soil erosion at the installation. Soil disturbance can be mitigated through timely seeding and revegetation. The implementation of composting by the SP would enrich installation soils with nutrients and help retain soil moisture (USEPA 2019b).

*Geologic Hazards.* No effect on geologic hazards would occur because the seismic hazard rating in this area is very low, and no construction would occur on the fault that runs through the installation.

##### *MILCON Project H*

*Geology.* No effect on geology would be expected. No unique geological features or regional lithology, stratigraphy, or geological structure would be affected by MILCON Project H.

*Topography.* No effect on topography would occur. MILCON Project H would occur in a site that was previously developed; therefore, no change in topography would be expected.

*Soils.* Long-term, minor, adverse effects on soils would occur. MILCON Project H would occur in an area underlain by Urban Land soils, which have been disturbed by previous activities and are not designated farmland of statewide importance or prime farmland. The timing of the project, use of BMPs, and incorporation of soil erosion and sediment-control measures into the site plan would assist in limiting erosion and sediment production.

*Geologic Hazards.* No effect on geologic hazards would be expected from implementation of MILCON Project H because the seismic hazard rating in this area is very low.

### No Action Alternative

Existing conditions would remain the same as described in **Section 3.5.1**. Therefore, no effects on geological resources would occur.

## 3.6 Water Resources

### 3.6.1 Existing Conditions

#### Proposed Action

##### *Programmatic Projects*

*Groundwater.* Defense Distribution Center, Susquehanna overlies the Valley and Ridge aquifers. Groundwater flows toward the Susquehanna River in the north and east areas of the installation, toward Marsh Run in the south and southwest, and toward Yellow Breeches Creek in the west through bedrock via joints, faults, bedding planes, and solution channels. The water table on the installation is shallow with a depth to groundwater of approximately 0 to 30 feet (DLA 2016).

Because of past activities at the installation and the presence of landfills, salvage yards, and fuel storage tanks, the groundwater has been contaminated by hazardous substances. Groundwater use restrictions are described in **Section 3.9**, Hazardous Materials and Wastes. Groundwater contamination is monitored and evaluated on an installation-wide basis using approximately 120 monitoring wells (DLA 2016).

*Surface Water.* The Susquehanna River borders the installation along the north and to the east. Marsh Run parallels the southern boundary of the installation and discharges into the Susquehanna River. Marsh Run Pond, located at the southwestern portion of the installation, was created in the 1960s by damming a portion of Marsh Run (see **Figure 3-2**). Surface water on the installation drains through stormwater infrastructure from the higher elevations in the center of the installation to the south into Marsh Run, while water in the northern cantonment area drains to the north and east to the Susquehanna River (DLA 2016).

The installation holds three National Pollutant Discharge Elimination System (NPDES) permits: one associated with the treated effluent from the wastewater treatment plant (WWTP) (PA0038385), one Phase I Industrial Stormwater (NPDES Permit PAR 803648), and one Phase II Small Municipal Separate Storm Sewer Systems (NPDES Permit PAG 133590). Treated effluent from the WWTP is

discharged to the Susquehanna River. VOCs and semi-VOCs are monitored at eight locations throughout the Marsh Run wetland complex (DLA 2016).

*Floodplains.* Approximately 3 acres in the southwestern portion of the installation are within the 100-year floodplain (see **Figure 3-2**). Areas east and west of the installation also are in the 100-year floodplain with the area bordering the Susquehanna River being a regulatory floodway (USEPA 2019c).

*Wetlands.* Wetlands make up approximately 96 acres of the installation (see **Figure 3-2**). The wetlands are primarily clustered in the southern portion of the facility adjacent to Marsh Run. Wetland permits have been previously issued by the U.S. Army Corps of Engineers Baltimore District and the Pennsylvania Department of Environmental Protection (PADEP) for the filling of wetlands on the installation. Approximately 1 acre of wetlands was constructed in an upland field adjacent to Marsh Run as part of wetland mitigation for the previously issued permits (DLA 2016; USFWS NWI 2019).

#### *MILCON Project H*

*Groundwater.* Groundwater conditions for MILCON Project H are similar to those described for the Programmatic Projects (DLA 2016).

*Surface Water.* There are no surface water features within or adjacent to the MILCON Project H site. Stormwater at the project area flows to Marsh Run and Marsh Run Pond (DLA 2016).

*Floodplains.* There are no floodplains within or surrounding the MILCON Project H site (DLA 2016).

*Wetlands.* There are no wetlands within or adjacent to MILCON Project H site (DLA 2016; USFWS NWI 2019).

### 3.6.2 Environmental Consequences

#### Proposed Action

##### *Programmatic Projects*

*Groundwater.* Long-term, minor, adverse effects on groundwater would be expected. The overall increase in impervious surfaces proposed under MILCON Projects I through Q and the SRM projects would reduce available acreage for infiltration and recharge of groundwater. Effects from additional impervious surfaces would be minimized through the use of BMPs and LID practices and by employing long-term stormwater control measures for groundwater recharge in accordance with Section 438 of the EISA. In addition, implementation of stormwater capture ponds and rain gardens, as outlined in the SP, would enhance percolation and reduce stormwater runoff.

Long-term, minor, beneficial effects on groundwater also would be expected because the projects in the component plans would increase groundwater infiltration and retention through sustainable water management practices and stormwater infrastructure improvement projects. Examples of such include permeable pavement technology, drainage ditch and gutter repair, stormwater capture in ponds and reuse for irrigation, rain gardens, and other measures to increase infiltration and reduce runoff.

The SP and INRMP projects would implement preventative measures against groundwater contamination and over-withdrawal such as an assessment of the availability of long-term water supply and monitoring of groundwater for contamination of drinking water, suspected pollution sources, and known plumes.

*Surface Water.* Long-term, minor, adverse effects on surface water would be expected. The overall increase in impervious surfaces proposed under MILCON Projects I through Q and the SRM projects would result in increased stormwater runoff, which could adversely affect surface water. However, the increased runoff would be managed through the implementation of stormwater initiatives presented in the SP, such as rainwater harvesting, stormwater capture ponds, and rain gardens. Furthermore, BMPs and LID features would be used to adhere to Section 438 of EISA so that post-development hydrology would be equal to or less than pre-development hydrology to the extent technically feasible.

Long-term, minor, beneficial effects on surface waters would occur due to implementation of the projects in the IPMP and INRMP. The reduction of pesticides and implementation of provisions of the Stormwater Pollution Prevention Plan, which are projects identified in the IPMP and INRMP, would reduce contaminants in stormwater runoff and, consequently, surface waters within and surrounding the installation. The installation's Stormwater Pollution Prevention Plan requirements are met by the Integrated Contingency Plan (DLA 2018a) and Storm Water Management Plan (DLA 2017b). Stormwater infrastructure improvement projects outlined in the SRM and component plans projects would also reduce overall stormwater runoff.

*Floodplains.* No effects on floodplains would be expected. The goals of the INRMP include no net loss of floodplain acreage, and none of the MILCON, SRM, or component plans projects would be sited within floodplains.

*Wetlands.* Long-term, minor, beneficial effects on wetlands would be expected. None of the MILCON, SRM, or component plans projects would be sited within or adjacent to wetlands. The proposed projects would result in an increase in impervious surfaces; however, the resulting increase in runoff would not flow directly into wetlands. The INRMP projects, such as monitoring and managing the compensatory wetland mitigation site in compliance with the permit, maintaining and updating the wetland inventory data including wetland distribution and categories, monitoring impacts on wetlands from training activities, and obtaining appropriate permits for nonnative and invasive plant species eradication in wetland areas, would provide installation personnel with information that would facilitate and enhance management of wetlands. In addition, the IPMP is a guide to reduce reliance on pesticides and to enhance environmental protection including measures to avoid sensitive areas (i.e., wetlands).

#### *MILCON Project H*

*Groundwater.* Long-term, negligible, adverse effects on groundwater would be expected. The increase in impervious surface proposed under MILCON Project H would reduce available acreage for infiltration and recharge of groundwater. However, because the site was previously developed, the increase in impervious surfaces would be negligible and effects would be further minimized through the use of BMPs and LID practices.

*Surface Water.* Long-term, negligible, adverse effects on surface water would be expected. The increase in impervious surfaces proposed under MILCON Project H would result in increased



stormwater runoff. However, because the site was previously developed, the increased runoff would be negligible and would be managed through BMPs and LID features.

*Floodplains.* No effects on floodplains would be expected because no floodplains are in or adjacent to the MILCON Project H site.

*Wetlands.* No effects on wetlands would be expected because no wetlands are in or adjacent to the MILCON Project H site.

### No Action Alternative

Existing conditions would remain the same as described in **Section 3.6.1**. Therefore, no effects on water resources would occur.

## 3.7 Biological Resources

### 3.7.1 Existing Conditions

*Vegetation.* Defense Distribution Center, Susquehanna is in the Central Appalachian Broadleaf Forest-Coniferous Forest-Meadow Province, which is characterized as a mixed oak-pine forest (Bailey 1995). The majority of the installation is developed; the undeveloped areas are primarily within the southern portion of the installation along Marsh Run. Vegetation in the developed areas is characterized primarily by mowed and maintained turf grasses; however, a variety of shrubs and trees, including introduced species, are also present (DLA 2016). The undeveloped area includes trees and other vegetation characteristic of second-growth forests (i.e., regrown after timber harvest) in the region.

*Wildlife and Habitat.* Few wildlife species are found on and in the vicinity of the installation, and their habitat is limited. The majority of the installation is developed (681 acres) and, therefore, has a low to moderate value to support native species richness of birds, mammals, reptiles, and amphibians. The remaining 167 acres are undeveloped and consist of a 32-acre pond and approximately 135 acres of second-growth forest. Wetland communities, the predominant undeveloped habitat on the installation, include nontidal emergent wetlands around the perimeter of Marsh Run, Marsh Run Pond, unnamed perennial and intermittent tributaries that feed the run and pond, various isolated seep pockets, and forested wetlands in the southern portion of the installation. Wildlife species known to occur on the installation generally include species that are adapted to human development and activities that impact natural resources (DLA 2016).

*Protected Species.* Protected species at Defense Distribution Center, Susquehanna include federally listed species, state-listed species, migratory birds, and plant species of concern. Federally listed species are protected under the Endangered Species Act, migratory birds are protected under the Migratory Bird Treaty Act, and bald eagles are protected under the Bald and Golden Eagle Protection Act. All other listed species are not provided species-specific management but are taken into consideration in developing land management actions and priorities.

Based on the USFWS Information for Planning and Consultation Resource List report, five federally listed species could occur on or near the installation, including the Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), bog turtle (*Clemmys muhlenbergii*), red knot (*Calidris canutus rufa*), and northeastern bulrush (*Scirpus ancistrochaetus*) (USFWS 2019). Based on the 2015 surveys of the installation, there is no suitable habitat for the red knot at Defense

Distribution Center, Susquehanna (DLA 2016). Based on previous consultation with USFWS, the installation is within an area occupied by a northern long-eared bat maternity colony (i.e., summer habitat) and within the swarming radius of a hibernaculum (i.e., winter hibernation site) (USFWS 2015). During the 2012 Phase I Habitat Assessment, potentially suitable habitat for bog turtles was identified within the Marsh Run wetland complex in the southern portion of the installation, which is not within the MILCON projects (DLA 2016). The western and eastern ends of MILCON Project Q are approximately 50 feet from the Marsh Run wetland complex.

The Pennsylvania Department of Conservation and Natural Resources identified *ellisia* (*Ellisia nyctelea*), a state-threatened plant species, in the vicinity of Defense Distribution Center, Susquehanna during the 2015 Pennsylvania Natural Diversity Inventory search for the INRMP (PNHP 2015); however, the Pennsylvania Department of Conservation and Natural Resources indicated that no impact is likely to occur on this species as a result of the projects proposed in the 2016 INRMP. No *ellisia* were observed at Defense Distribution Center, Susquehanna during the 2015 surveys. However, one state-listed species, the great egret (*Ardea alba*), was observed on the installation during the 2015 surveys. The great egret was observed in Marsh Run Pond in the southern part of the installation. No other state agencies had comments regarding state-listed species at Defense Distribution Center, Susquehanna during the 2016 INRMP coordination (DLA 2016). The 2019 Pennsylvania Natural Diversity Inventory search of the installation indicated no federally or state-listed species or special concern species within the installation. It also noted no known impacts on threatened and endangered species or special concern species and resources from the Proposed Action (PNHP 2019).

### 3.7.2 Environmental Consequences

#### Proposed Action

##### *Programmatic Projects*

**Vegetation.** Long-term, minor, adverse and beneficial effects on vegetation would be expected. The overall increase in impervious surface proposed under MILCON Projects I through Q, the SRM projects, and the projects in the component plans would replace some existing vegetation. Most of the proposed projects would occur in the developed areas of the installation and are not expected to result in a loss of native vegetation. However, the MILCON Project Q site contains meadow grass species and a few deciduous and coniferous trees that would be removed.

INRMP projects, such as timber stand improvement and nonnative and invasive plant species eradication, would facilitate proper management of installation vegetation. Recommendations from the erosion survey to reseed and restore vegetation would also be implemented. As outlined in the SP, maximizing tree planting and open space while minimizing parking paved surfaces would enhance natural habitat on the installation.

**Wildlife and Habitat.** Short-term, minor, adverse effects could occur on wildlife; however, the effects would be minor because there is a lack of suitable habitat and native wildlife is uncommon in the project areas. The MILCON Project Q site includes grasses and several small trees that could support small mammals and ground-nesting birds; however, this area is not considered high-quality habitat. Wildlife species that occupy the project areas would be temporarily displaced to nearby habitat during construction but would be expected to return to the area once construction is complete, assuming design of the projects includes vegetated areas. Long-term, negligible, adverse

effects on wildlife would occur from the permanent conversion and alteration of habitat at the MILCON Project Q site. No permanent conversion of wildlife habitat would be expected for the other proposed projects based on their current siting in developed areas.

Long-term, beneficial effects on wildlife species and their habitat would be expected as a result of implementing the INRMP projects. Several projects would be implemented to survey or inventory wildlife on the installation. Information obtained from these efforts would help installation personnel manage wildlife resources.

*Protected Species.* No adverse effects on protected species would be expected as a result of the Proposed Action. The areas of the Proposed Action are previously disturbed and developed with no suitable habitat for listed species with the potential to occur on the installation, with the exception of MILCON Project Q, which is a closed landfill with a vegetated cover (grass and trees).

MILCON Projects I through Q, the SRM projects, and the projects in the component plans would not be sited within or immediately adjacent to wetlands. With the exception of MILCON Project Q, the proposed projects would not occur within 300 feet of the Marsh Run wetland complex; therefore, no bog turtle habitat would be affected. The bog turtle protection management actions within the installation's INRMP note that a Phase II bog turtle survey should be conducted for any project proposed within 300 feet of the Marsh Run wetland complex and the survey results would be submitted to the USFWS for review and concurrence (DLA 2016). Therefore, a Phase II bog turtle survey should be conducted prior to the development of Project Q.

MILCON Project Q would require a limited amount of tree removal, which could impact habitat for the northern long-eared bat. Based on previous consultation with USFWS, the installation is within an area occupied by a northern long-eared bat maternity colony and within the swarming radius of a northern long-eared bat hibernaculum (USFWS 2015). However, measures provided in the NLEB Final 4(d) Rule exempt take from forest management practices, maintenance and limited expansion of transportation and utility rights-of-way, prairie habitat management, and limited tree removal projects, provided these activities protect known roosts and hibernacula and as long as these activities include the following measures: activity occurs more than 0.25 mile from a known, occupied hibernacula, activity avoids cutting or destroying known, occupied roost trees during the pup season (June 1–July 31), and activity avoids clearcuts and similar harvest methods (e.g., seed tree, shelterwood, coppice) within 150 feet of known, occupied roost trees during the pup season (June 1–July 31).

Implementation of INRMP projects would promote the management of forested habitat for the federally threatened northern long-eared bat and the federally endangered Indiana bat. Measures outlined in the USFWS Guidance on Developing and Implementing an Indiana Bat Conservation Plan (revised February 2013) would be implemented. The USFWS Forest Management Guidelines for northern long-eared bat summer habitat and swarming habitat also would be implemented, including measures to release roost trees (i.e., thinning undesirable and competing trees) and control invasive species in potential habitat (USFWS 2017). High value roost trees include several species of hickory (*Carya* sp.), oak (*Quercus* sp.), maple (*Acer* sp.), and ash (*Fraxinus* sp.).

Long-term, beneficial effects on all protected species at the installation would be expected from implementing the INRMP projects. Surveys for sensitive species and migratory bird nests would be conducted. Implementation of formal management plans and routine assessments and monitoring of

these special status species would provide a method for protecting these species and a baseline of data that can be used to prioritize projects and identify efficient allocation of resources.

Short- and long-term, minor, adverse effects on migratory birds would be expected from the Proposed Action. Due to the lack of natural vegetation and surface waters, breeding or migratory habitat is very limited in the areas of the Proposed Action. The MILCON Project Q site includes grasses and a few small trees that could support ground-nesting birds such as the eastern meadowlark (*Sturnella magna*), Savannah sparrow (*Passerculus sandwichensis*), and horned lark (*Eremophila alpestris*). With respect to project timing, it is recommended that construction be performed between September 1 and March 31, which is outside the nesting season for most native bird species. Implementation of a seasonal restriction would avoid take of most breeding birds, their nests, and their young (i.e., eggs, hatchlings, fledglings).

Consultation with USFWS for the programmatic projects (i.e., MILCON Projects I through Q, the SRM projects, and the projects in the component plans) will be conducted on a project-by-project basis, as needed, when they become further defined and ready for consultation.

#### *MILCON Project H*

*Vegetation.* Long-term, minor, adverse effects on vegetation would be expected. MILCON Project H includes construction of an approximately 446,000-square foot GPW. The buildings that used to occupy the site have been demolished; therefore, the site is vacant. Construction of this facility on the vacant lot would replace existing vegetation. However, MILCON Project H is in a developed area of the installation and is not expected to result in a loss of native vegetation.

*Wildlife and Habitat.* Short-term, minor, adverse effects could occur on wildlife; however, effects would not be significant as there is a lack of suitable habitat and native wildlife is uncommon in areas where activities would occur. No long-term effects on wildlife are expected as no permanent conversion of wildlife habitat would occur.

*Protected Species.* No adverse effects on protected species would be expected as a result of MILCON Project H. The MILCON Project H site is disturbed with no suitable habitat for listed species. Therefore, DLA concludes consultation with USFWS for MILCON Project H is not necessary.

#### No Action Alternative

Existing conditions would remain the same as described in **Section 3.7.1**. Therefore, no effects on biological resources would occur. The No Action Alternative does not provide for the formal implementation of a routine habitat assessment and monitoring program. The health and condition of the wildlife populations would not be improved, and management measures to increase the abundance and biodiversity of wildlife would not be implemented. In addition, management measures designed to protect and enhance wildlife habitats (i.e., aquatic, riparian, wetlands, terrestrial) would not be implemented, thereby resulting in a continuing decline in the quality and complexity of the habitats. In addition, the No Action Alternative does not establish routine management measures to protect and enhance these habitats by preventing or minimizing potential impacts.

## 3.8 Infrastructure and Transportation

### 3.8.1 Existing Conditions

#### *Programmatic Projects*

*Electrical System.* The installation's electrical distribution system consists of overhead and underground lines that have adequate capacity for the installation's current and future demand; however, much of the system is aged and resiliency is a concern. In 2018, the overall peak load was 8.0 megawatts (DLA 2019).

*Steam Heat System.* The central heat plant supplies steam heat to the southern portion of the installation via three dual fuel-fired boilers and a series of steam lines. Natural gas is the primary fuel source for the central heat plant, and fuel oil is the secondary fuel source.

*Natural Gas System.* Natural gas service is provided to the installation via a 6-inch and a 12-inch natural gas line from UGI Utilities, Inc. The 6-inch gas line primarily services facilities in the upper depot area. The 12-inch gas line provides service to the central heat plant and several other buildings. The current capacity of the natural gas system at the installation is adequate (DLA 2019).

*Liquid Fuel System.* Fuel oil is used for the dual fuel-fired boilers at the central heat plant and also is used to heat several other buildings on the installation that are not connected to the steam heat system. The other fuel systems used on the installation include propane, which is used in industrial operations, cooking, and to heat some buildings. Propane, gasoline, and diesel are used as fuel for the installation's fleet vehicles (DLA 2019).

*Potable Water System.* Potable water is delivered to the installation by Pennsylvania American Water through two mains with a total capacity of 10 million gallons per day. Average daily potable water consumption at the installation is between 150,000 and 200,000 gallons per day (GPD). The water distribution system generally follows the streets and roads throughout the installation. Pipe materials include cast iron, ductile iron, asbestos-cement, and copper (DLA 2019). The installation has a 750,000-gallon, on-installation, potable water tower that was completed in 2019. The former off-installation potable water reservoir is in the process of being removed (Megonnell 2019).

*Stormwater System.* Stormwater on the installation is managed through a system of catch basins, pipes, outfalls, and ponds. The stormwater drainage system is divided by a ridgeline that runs east to west near and along J Avenue. The northern section of the installation drains to the Susquehanna River and the southern section drains to Marsh Run. Conveyance of the current stormwater drainage system is adequate for the frequency and duration of most storms experienced in the area (DLA 2019).

*Sanitary Sewer and Wastewater System.* The installation operates a sanitary wastewater collection and treatment system. A new WWTP was completed in 2016. The permitted discharge capacity of the WWTP is 150,000 GPD; however, the average flow received by the WWTP is approximately 100,000 GPD. The new WWTP conforms to pending PADEP Chesapeake Bay Tributary Strategy nutrient reduction discharge limit requirements (DLA 2019).

*Communications System.* The telephone and telecommunications network consists of a central office and distribution lines. Communications equipment has been consolidated into one building on the installation (DLA 2019).



*Solid Waste Management.* Municipal solid waste and recyclables are collected at the installation via government-owned vehicles. The municipal solid waste is transported off site and disposed of at the York County Landfill or the York County waste-to-energy facility. Recyclables (e.g., wood pallets, cardboard, paper, plastic bottles, aluminum cans, and scrap metal) are accumulated at the installation's Recycling Center and taken by the recyclables contractor for recycling. Contractors are required to recycle construction and demolition debris generated at the installation. The Department of Defense's current construction and demolition debris diversion goal is 60 percent (DLA 2018b).

*Transportation System.* The installation has two active access control points (ACPs) that were recently upgraded to meet antiterrorism/force protection standards: ACPs 3 and 4 (designated for trucks). ACPs 1 and 2 are currently inactive. The primary installation roads include Mifflin Avenue, Mission Drive, and H Avenue. The roadway network on the installation is set up in a grid system and consists of arterial, collector, and local roads. Collector roads provide access to facilities within key locations such as community use areas. The local road system consists of streets with narrower pavement widths, which primarily provide access among the warehouse buildings (DLA 2019).

Transportation options to and within the installation include privately owned vehicles, city-provided transit, van pools, bicycling, and foot traffic. Approximately 7 percent of employees commute to work using car/van pools or public transit. There is no contiguous bicycle/walking route within the installation (DLA 2019).

*MILCON Project H.* Utility lines in the vicinity of the MILCON Project H site include overhead electricity, steam, natural gas, potable water, stormwater, sanitary sewer/wastewater, and communication. The transportation system adjacent to MILCON Project H consists of collector and local roads, and there is an unnamed paved access road between the northern and southern portions of the MILCON Project H site (DLA 2019).

## 3.8.2 Environmental Consequences

### Proposed Action

#### *Programmatic Projects*

All of the MILCON projects are proposed to be sited in locations containing or adjacent to existing utility lines. Therefore, no utilities would need to be extended to the MILCON project locations. The MILCON, SRM, and component plans projects would be initiated at different times over 20 years, which would reduce temporary interruptions as the projects are disconnected and connected to the various utility systems.

*Electrical System.* Long-term, moderate, beneficial effects on the electrical system would be expected. The programmatic projects would result in the addition of building space, most of which would consist of warehouse space. With this increase in building space, an increase in electrical energy demand would be expected; however, implementation of the NZEP and SP projects would result in buildings and infrastructure designed to maximize efficiency and minimize demand. Additionally, the NZEP would guide the installation toward self-sufficiency and position it for development of a solar farm, transpired solar collectors, and a biomass plant, potentially eliminating reliance on a commercial utility provider. All of the MILCON projects are sited in locations adjacent to existing electrical lines.

*Steam Heat System and Natural Gas System.* Long-term, minor, adverse effects on the steam heat and natural gas systems would be expected. The increase in building space would result in an increase in heating energy requirements. In accordance with the NZEP, natural gas would become the fuel of choice for heating, replacing fuel oil, resulting in an increased demand for natural gas. However, implementation of the NZEP projects would result in buildings designed to maximize efficiency and minimize demand, offsetting some of the increase in demand for natural gas.

*Liquid Fuel System.* Long-term, minor, beneficial effects on liquid fuels would be expected. In accordance with the NZEP, natural gas would become the fuel of choice for heating. Recommendations outlined in the NZEP also include increased use of propane/butane- or electrical-powered forklifts, decreasing the use of gasoline-powered forklifts, and alternative-fuel and electric vehicles. These recommendations would result in a decreased demand for fuel oil, diesel fuel, and gasoline, and a slight increase in demand for propane.

*Potable Water System.* Long-term, moderate, beneficial effects on the installation's potable water supply and delivery system would be expected. The Master Plan MILCON projects would be designed to meet applicable Leadership in Energy and Environmental Design standards, which would require efficient use of water. Implementation of the SP projects would improve water storage capacity while maintaining distribution system integrity. Action plans in the SP include water-efficient plant selections for landscaping, water-efficient irrigation systems, and rooftop harvesting and cistern collection for toilet flushing or irrigation.

*Stormwater System.* Long-term, minor, adverse effects on the installation's stormwater system would be expected. The Master Plan MILCON projects would result in increased impervious surface area; however, the increased runoff would be managed through implementation of stormwater initiatives outlined in the SP, such as rainwater harvesting, stormwater capture ponds, and rain gardens. Furthermore, LID features would be incorporated in project designs to adhere to Section 438 of the EISA to ensure that post-development hydrology would be equal to or less than pre-development hydrology to the extent technically feasible.

*Sanitary Sewer and Wastewater System.* Long-term, moderate, beneficial effects on the installation's sanitary sewer and wastewater system would be expected. Action plans in the SP include water-efficient plumbing fixtures, treated wastewater reuse for irrigation, and gray water use for toilet flushing and irrigation. The Master Plan MILCON projects would incorporate sustainable building and planning principles, maximizing efficiency and minimizing demand.

*Communication System.* Long-term, minor, beneficial effects on the installation's communications system would be expected. The designs for the MILCON projects would include new communications infrastructure, but the existing capacity would not be exceeded by demand.

*Solid Waste Management.* Long-term, minor to moderate, beneficial effects on solid waste management would be expected. The SP outlines several action plans that would reduce and improve management of solid waste on the installation.

*Transportation System.* Long-term, minor, adverse and long-term, minor, beneficial effects on the installation's transportation system would be expected. The location of MILCON Projects I and K would result in the removal of the majority of O Avenue, and the location of MILCON Project J would result in the removal of the middle portion of N Avenue. Therefore, the traffic on these roads would be distributed to other roads, such as Avenues M and Q. However, transportation infrastructure improvements would result from ACP, roadway, and parking improvement projects and development

of pedestrian and bicycle paths outlined in the Master Plan and SP. Such improvements would reduce traffic and minimize congestion. Pedestrian and bicycle networks between transit hubs, bus stops, and installation facilities would result in improved employee access to recreational facilities.

#### *MILCON Project H*

Short-term and long-term, negligible, adverse effects on the installation’s electrical, steam, natural gas, potable water, stormwater, sanitary sewer/wastewater, and communications would be expected. Temporary service interruptions may be experienced during construction and connection of the GPW to these utility systems. Utility system demands would increase from operation of the GPW; however, these increases would be limited because the design of the GPW would incorporate sustainable building and planning principles that would maximize efficiency, minimize demand, and meet NZEP and SP goals.

Construction of the GPW would temporarily increase the volume of solid wastes generated at the installation. The construction debris would consist primarily of recyclable and reusable building materials such as concrete, metal, lumber, soil piles, and vegetation. The construction debris would be recycled to the extent possible or taken to an offsite landfill for disposal. MILCON Project H would generate approximately 864 tons of construction debris (see **Table 3-4**). Based upon the Department of Defense goal of diverting at least 60 percent of construction and demolition debris, it is estimated that 345.6 tons of the proposed construction debris would be disposed of and 518.4 tons would be recycled.

**Table 3-4. Estimated Construction Debris Generated from MILCON Project H**

Project	Total Square Feet	Multipliers (pounds per square foot)	Debris Generated	
			Pounds	Tons
Construct GPW	446,000	4.34	1,935,640	864

Source: USEPA 2009

Short-term, negligible, adverse effects on the installation’s transportation system could result from an increase in construction-related traffic, including trucks, personal vehicles, and equipment. Traffic volumes would increase temporarily, particularly during peak travel periods in the morning and evening. Such effects would be negligible because the installation and local off-installation transportation networks have adequate capacity to support the temporary increase in traffic. Additionally, the installation would implement standard traffic control BMPs to reduce or avoid potential traffic effects.

#### No Action Alternative

Existing conditions would remain the same as described in **Section 3.8.1**. No effects would occur. Inefficient buildings and infrastructure would not be replaced with modern, energy-efficient, sustainable buildings and infrastructure, which would impact the installation’s ability to satisfy NZEP and SP recommendations. Transportation infrastructure improvements and pedestrian and bicycle paths proposed in the Master Plan would not occur.

## 3.9 Hazardous Materials and Wastes

### 3.9.1 Existing Conditions

Hazardous materials are stored in various locations across the installation for everyday use and as mission stock. Bulk hazardous materials are primarily stored in Building 87, which is curbed to ensure proper containment of spills. Other buildings that hold large quantities of hazardous materials include Buildings 250, 750, and 753. No hazardous materials are used or stored within the footprint of MILCON Project H (DLA 2015c).

Defense Distribution Center, Susquehanna is a Resource Conservation and Recovery Act large quantity generator (Handler ID: PA8213820642). Buildings 148 and 149 are the hazardous waste accumulation area for the installation. Hazardous wastes generated during everyday activities are delivered to these buildings from various accumulation points across the installation to await proper disposal. No hazardous wastes are generated or stored within the footprint of MILCON Project H (DLA 2015c).

Petroleum products are used and stored across the installation for vehicle and equipment fueling, building heating, emergency electricity generation, waste oil storage, and cooking. The installation has 33 active aboveground storage tanks (ASTs) and 12 active underground storage tanks (USTs), and has 54 former AST sites and 123 former UST sites. These ASTs and USTs hold or used to hold diesel, gasoline, kerosene, heating oil, waste oil, and cooking grease. No active or former ASTs or USTs coincide with MILCON Project H (DLA 2015c).

Soil and groundwater contamination is known to exist at isolated locations across the installation. Sixty-three environmental contamination sites—known as solid waste management units (SWMUs), areas of concern (AOCs), and installation restoration program (IRP) sites—are on Defense Distribution Center, Susquehanna. These sites are categorized as follows:

- Fifty-one sites have been closed by PADEP and require no further action.
- Six sites have been closed by PADEP but are subject to land use controls (LUC) that prohibit future development or warn of possible contamination. These sites are SWMU No. 2, SWMU No. 3, SWMU No. 4, SWMU No. 37, AOC O, and IRP Site 60. MILCON Project O coincides with SWMU 2 and MILCON Project Q coincides with SWMU 3, SWMU 4, and AOC O.
- Five sites have been closed by PADEP but are subject to groundwater monitoring. These sites are SWMU No. 6, SWMU No. 17, SWMU No. 42, AOC N, and IRP Site 63. The groundwater plumes associated with these sites are monitored and evaluated on an annual basis via approximately 45 monitoring wells. A groundwater use restriction area covers more than half of the installation and includes all of the MILCON projects except Project H.
- One site (i.e., SWMU No. 20, which is the installation's sanitary sewer system) was closed by PADEP, but further investigation has been subsequently recommended (DLA 2015c).

SWMU No. 2, SWMU No. 3, SWMU No. 4, SWMU No. 37, AOC O, and IRP Site 60; the groundwater plumes associated with SWMU No. 6, SWMU No. 17, SWMU No. 42, AOC N, and IRP Site 63; and the groundwater use restriction area are shown on **Figure 3-3**. None of the 63 environmental contamination sites coincide with MILCON Project H. No groundwater plumes are known to underlie MILCON Project H, and the project site is not within the groundwater use restriction area (DLA 2015c).



Toxic substances include asbestos-containing materials (ACMs), lead-based paint (LBP), and polychlorinated biphenyls (PCBs). ACMs are generally found in building materials such as floor tiles, mastic, roofing materials, pipe wrap, and wall plaster. USEPA has implemented several bans on various ACMs between 1973 and 1990, so ACMs are most likely in older buildings (i.e., constructed pre-1990). Defense Distribution Center, Susquehanna has undertaken numerous ACM surveys of the buildings on the installation. The results of these surveys have confirmed or assumed ACMs in many buildings (DLA 2015c).

Lead was commonly used in paint for many years. The federal government banned the use of most LBP in 1978; therefore, it is assumed that all structures constructed prior to 1978 could contain LBP. Limited LBP sampling has occurred on Defense Distribution Center, Susquehanna and primarily has been limited to housing and child care facilities. LBP abatement has occurred in select buildings (DLA 2015c).

PCBs are man-made chemicals that persist in the environment and were widely used in construction materials and electrical products prior to 1979. All structures constructed prior to 1979 potentially include PCB-containing building materials. Older electrical infrastructure also might contain PCBs. All PCB-containing transformers have been removed from the installation; however, PCB-containing fluorescent light ballasts and other PCB-containing equipment might be present within some older buildings (DLA 2015c).

USEPA rates York County, Pennsylvania, as Radon Zone 1. Counties in Zone 1 have a predicted average indoor radon screening level greater than 4 picoCuries per liter, which is USEPA's recommended mitigation action level (USEPA 2019d, USEPA 2016). Unified Facilities Criteria 3-490-04A, *Indoor Radon Prevention and Mitigation*, establishes design criteria for all newly constructed and substantially altered Department of Defense facilities.

The installation uses an integrated pest management approach to minimize the types and quantities of pesticides used at the installation. The least-toxic chemical controls are used, where appropriate. Pesticides used on the installation are stored in Building 151. Outdoor mixing occurs on a curbed concrete surface attached to Building 151. Indoor mixing occurs in a sink that empties into a 5-gallon bucket. All pesticides are applied in accordance with manufacturer label instructions and the IPMP (DLA 2015c).

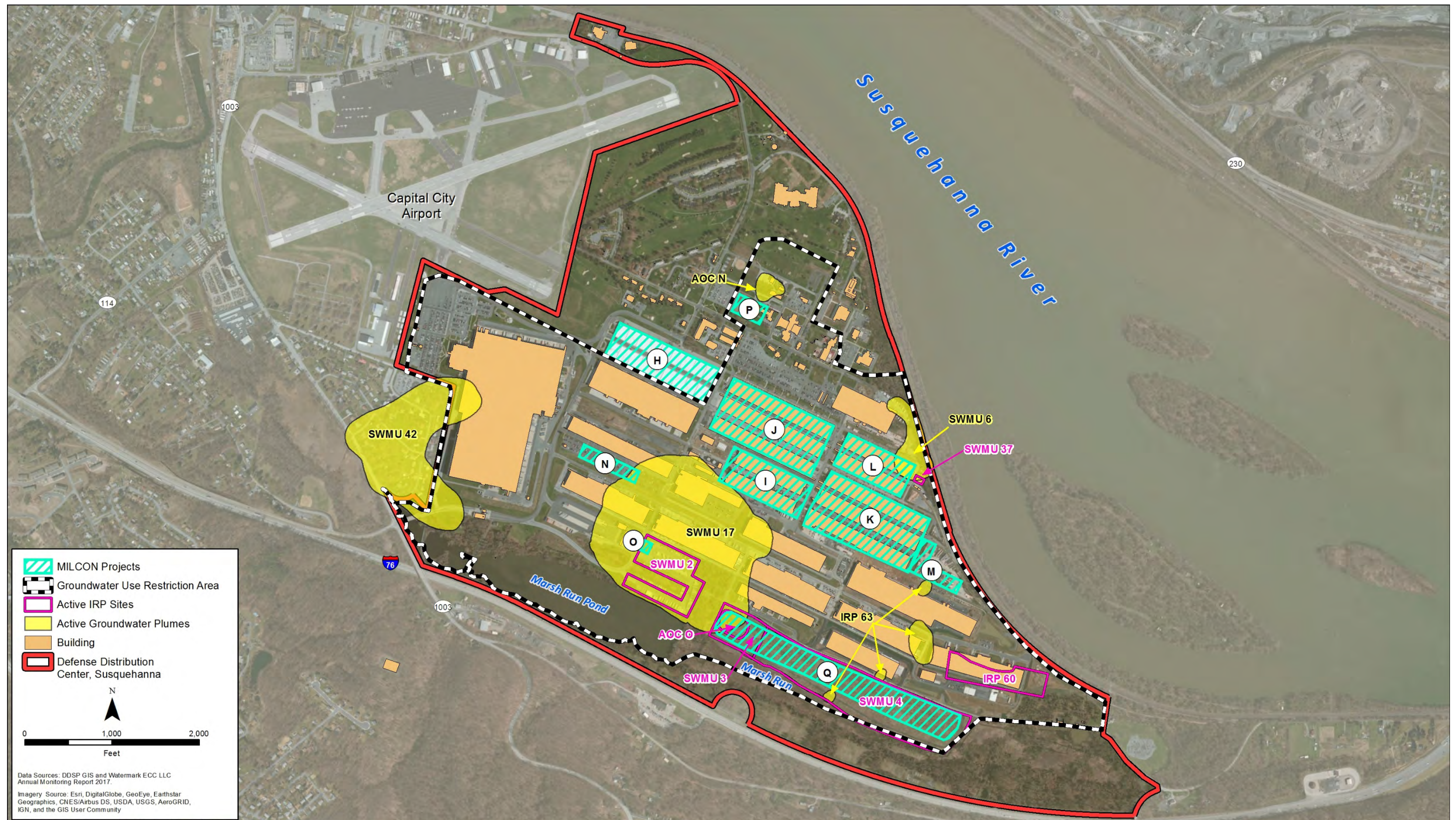
### 3.9.2 Environmental Consequences

#### Proposed Action

*Programmatic Projects.* Long-term, minor, beneficial effects on hazardous materials and wastes would occur from implementation of the Master Plan and projects in the component plans. Most of the projects in the Master Plan would have no long-term effects on the use/generation, storage, and management of hazardous materials, hazardous wastes, and petroleum products; however, the SRM projects to replace Building 2001's fuel tank and cathodic protection and monitoring system (Building 941) and to remove the USTs at Building 411 would result in a long-term, minor, beneficial effect from a lesser potential for a release of petroleum products. Many of the projects in the NZEP and SP would reduce the storage and consumption of petroleum products on the installation.



Figure 3-3. Active Land Use Controls and Groundwater Plumes





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The installation's environmental contamination sites would not affect the ability to implement the Master Plan and projects in the component plans. The 51 environmental contamination sites that require no further action do not represent constraints to future development. The LUCs for SWMU 2, SWMU 3, SWMU 4, and AOC O restrict future development at these sites, and MILCON Project O (Construct New Mail-Sorting Facility) and MILCON Project Q (Install Solar Farm) would conflict with these development restrictions. For MILCON Project O, the installation would undertake soil sampling at the site of the proposed facility. If the soil sampling results indicate that contamination does not coincide with the proposed facility, the IRP office could issue a waiver of the development restrictions to allow this project. Because MILCON Project O coincides with only a small portion of SWMU 2 and is away from the main areas of documented soil contamination, it is likely the soil sampling would not identify contamination within the footprint of MILCON Project O. For MILCON Project Q, the installation would need to negotiate with PADEP to obtain approval to construct on the former landfill. The proposed solar farm would not be constructed without approval from PADEP. Some of the proposed projects would overlay groundwater plumes from environmental contamination sites. The groundwater monitoring requirements for these sites would continue, and project siting would avoid existing groundwater monitoring wells. The installation would not use groundwater as a source for drinking water.

Long-term, minor, beneficial effects from the removal of ACMs, LBP, and PCBs would occur. Implementation of the projects of the Master Plan would remove older buildings, which are more likely to contain ACMs, LBP, and PCB, from the installation and replace them with newer buildings, which would be designed to be free of ACMs, LBP, and PCBs. Removal of these toxic substances from the installation would be beneficial in that there would be an overall decrease in the amount of these materials to maintain.

No effects from radon would occur. In accordance with Unified Facilities Criteria 3-490-04A, *Indoor Radon Prevention and Mitigation*, DLA would design (passive and active systems, as applicable) and test the newly constructed and renovated buildings to reduce indoor radon levels to less than 4 picoCuries per liter.

Long-term, minor, beneficial effects on pesticide management would be occur. Implementation of the IPMP projects would reduce reliance on chemical pesticides, ensure that pest management equipment is programmed for replacement, and include the construction of a pesticide mixing and equipment storage hardstand at the golf course maintenance shop.

*MILCON Project H.* Short-term, minor, adverse effects on hazardous materials and wastes would result from construction of MILCON Project H. Construction would require the use of hazardous materials and petroleum products and the generation of hazardous wastes. Contractors would use small quantities of hazardous materials, such as hydraulic fluids, and petroleum products, such as diesel and gasoline, in the heavy vehicles and equipment needed to support construction. Construction would also generate negligible quantities of hazardous wastes, and these quantities would not exceed the capacities of the existing hazardous waste disposal streams of the installation. Only minimal household quantities (i.e., everyday use) of hazardous materials would be stored and used at the proposed building. No ASTs or USTs would be installed.

Environmental contamination would not affect MILCON Project H. The footprint for this project does not coincide with any known environmental contamination sites or groundwater plumes and is not subject to LUCs. In the unlikely event that contaminated soil or groundwater is discovered during construction, the contractor would immediately stop work, report the discovery to the installation, and



implement appropriate safety measures. Commencement of field activities would not continue until the issue was resolved. Although MILCON Project H would be sited outside of the groundwater restriction area, groundwater would not be used as a source for drinking water at the GPW.

Because no buildings are within the footprint of MILCON Project H and laws prohibit or discourage the use of ACMs, LBP, and PCBs in modern construction, toxic substances would not be affected by the GPW. No effects from radon would occur. In accordance with Unified Facilities Criteria 3-490-04A, *Indoor Radon Prevention and Mitigation*, DLA would design (passive and active systems, as applicable) and test the GPW to reduce indoor radon levels to less than 4 picoCuries per liter. The GPW would have no effects on pesticide use and management.

### No Action Alternative

Existing conditions would remain the same as described in **Section 3.9.1**. Therefore, no effects on hazardous materials and wastes would occur.

## 4 Cumulative and Other Effects

### 4.1 Cumulative Effects

Cumulative effects are the incremental effects of a proposed action when added to the aggregate effects of other past, present, and reasonably foreseeable future actions. For this analysis, the temporal span of the Proposed Action is 20 years. The geographic boundaries of cumulative analysis vary depending on the resource and potential effects. For most resources, the spatial area of consideration for cumulative effects is the installation and adjacent properties; however, resources with farther-reaching effects, such as air quality, are analyzed with a regional perspective.

For most resource areas, the effects of past actions are now part of the existing environment described in **Section 3**. Identification of projects occurring at and adjacent to the installation during the same time as the Proposed Action ensures that all present and reasonably foreseeable future actions that have the potential to result in cumulative effects are taken into consideration. The present and reasonably foreseeable future actions identified for this cumulative effects analysis are the following:

- Construction and demolition associated with MILCON Projects I through Q, which would occur over 20 years.
- Remove Former Water Reservoir: The 75-year old, off-installation, potable water reservoir is being removed now that the new, on-installation, potable water tower is operational. Removal is expected to be completed in 2019.
- Construct GPW: Building 730, a 425,000-square foot warehouse, is proposed to be constructed on the footprint of Building 1, former Building 2, and the roadway separating them in 2019. Building 1 would be demolished to construct Building 730, and Buildings 52 and 53 would be demolished after completion of Building 730.
- Divestment of Military Family Housing: A contractor is currently demolishing 110 military family housing units and associated infrastructure at the installation. Demolition is expected to be completed in 2020. The 14 remaining military family housing units have been reclassified for administrative use (Megonnell 2019).

All environmental resource areas were initially evaluated for potential direct impacts from the Proposed Action. The initial evaluation determined that some environmental resource areas (i.e., aesthetics and visual resources, coastal zone management, cultural resources, health and safety, socioeconomics, and environmental justice) would not be directly impacted and were not analyzed in detail in this EA. As determined through the analyses provided in **Section 3**, beneficial effects on airspace management and land use would be anticipated. Therefore, these resource areas were not evaluated for potential cumulative effects.

The Proposed Action, when combined with past, present, and reasonably foreseeable future projects, would not result in cumulatively significant effects on any resource area. The resource areas that have the potential to be cumulatively affected by the Proposed Action are presented in the following paragraphs. These paragraphs describe the non-significant cumulative effects that would occur from the Proposed Action when combined with past, present, and reasonably foreseeable future projects.

**Recreation.** Construction of MILCON Projects P and Q at their currently proposed locations and demolition of the playgrounds associated with the military family housing units would result in long-term, adverse effects on recreation due to loss of these recreation areas. However, fewer people are likely to use the remaining recreation areas due to the divestment of the installation's military family housing, which would partially offset the adverse effects.

**Noise.** Temporary increases in noise would occur from projects requiring the use of construction equipment and vehicles, but the noise would be limited to areas in the vicinity of the projects. Sensitive noise receptors, such as the post chapel, child development center, and off-installation residences, would experience short-term, minor, effects from increased noise.

**Air Quality.** Temporary increases in air emissions would occur from the use of construction equipment and vehicles. Permanent increases in air emissions would occur from new stationary air emissions sources or additional structures connected to the central heat plant; however, the removal of existing stationary air emissions sources, particularly associated with the military family housing units undergoing demolition, would offset the increase in air emissions.

**Geological Resources.** Temporary increases in soil erosion and sedimentation during excavation, grading, and filling would be possible. Adverse effects would be limited because the installation is heavily urbanized and most soils have already been disturbed by past activities.

**Water Resources.** The Proposed Action and other cumulative projects would result in an increase in impervious surfaces, which would increase the amount of stormwater runoff and reduce the amount of surface area available for groundwater recharge. BMPs, LID, and stormwater management techniques in the projects of the component plans would be implemented to minimize stormwater runoff and increase groundwater infiltration. Implementation of the IPMP and INRMP projects would have beneficial effects on water resources.

**Biological Resources.** Cumulative effects on vegetation, wildlife, and protected species would be limited due to the highly urbanized area and the minimal amount of native vegetation, wildlife habitat, and habitat capable of supporting protected species in and surrounding the installation.

**Infrastructure and Transportation.** Construction and demolition could result in temporary disruptions of utilities and transportation on the installation. Long-term cumulative effects would be beneficial due to the decreased demand on the installation's utility and transportation systems from removal of MFH and other demolition and transportation projects, and adverse from increased demand on utilities associated with new building construction. In total, the long-term, cumulative effects would be less than significant and demand would not surpass utility or transportation capacity.

**Hazardous Materials and Wastes.** Construction and demolition would result in a temporary increase in the generation of hazardous wastes. Long-term, minor, beneficial cumulative effects would be expected from removing old structures, which would reduce the amount of ACMs, LBP, and PCBs to maintain on the installation, and implementing the projects in the NZEP and SP that would reduce the storage and consumption of petroleum products on the installation.

## 4.2 Unavoidable Adverse Effects

Unavoidable adverse effects would result from the Proposed Action, but would be negligible to minor. Specific unavoidable effects include loss of some recreation areas, noise from construction,

air emissions, soil disturbance, increased stormwater runoff and reduced groundwater infiltration from the added impervious surface, disturbance of vegetation and wildlife, increased utility use and transportation disruptions, and use of hazardous materials during construction. Each of these effects is discussed in detail in **Sections 3.3** through **3.9**. None of these effects would be significant. There would be no unavoidable adverse effects on airspace management or land use and recreation from the Proposed Action.

#### 4.3 Compatibility of the Proposed Action and Alternatives with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls

Implementation of the Master Plan and projects in the component plans would not result in significant or incompatible land use changes on- or off-installation. The Master Plan and its component plans consider the installation's existing conditions and constraints in the siting, design, and timing of the projects proposed within these plans. The Proposed Action would not conflict with designated airspace associated with the Capital City Airport or any applicable off-installation land use ordinances.

#### 4.4 Relationship Between Short-term Uses of the Environment and Maintenance and Enhancement of Long-term Productivity

The potential short-term, adverse effects of the Proposed Action include increased noise and air emissions, soil erosion and sedimentation, solid waste generation, utility disruption, and construction traffic. Long-term, beneficial effects include siting proposed facilities in accordance with the latest airspace and land use regulations, modernizing warehouse space to increase efficiency and productivity, improving sustainability via reducing energy consumption and repairing and replacing infrastructure, encouraging the use of alternative forms of transportation, and establishing appropriate natural resources management processes.

#### 4.5 Irreversible and Irrecoverable Commitment of Resources

The irretrievable use of material resources would not be significant. Energy resources including natural gas, petroleum-based products (e.g., gasoline, diesel, lubricants), and electricity would be irretrievably lost. Gasoline, diesel, and lubricants would be used for the operation of construction equipment. Consumption of these energy resources would be negligible and would not place a significant demand on their availability in the region. Wood, metal, and other materials for the construction projects would be irretrievable, but these items are not in short supply. Therefore, no significant effects would be expected.

The use of human resources for demolition and construction is considered an irretrievable loss only in that it would preclude such personnel from engaging in other work activities. However, the use of temporary workers for the Proposed Action would represent employment opportunities and is considered beneficial but not significant.



## 4.6 Energy Requirements and Conservation Potential

The Proposed Action would involve the consumption of diesel, gasoline, and lubricants for construction equipment and contractor vehicles. The Proposed Action would increase energy consumption from the net increase in building space, but it would also reduce energy consumption by replacing older and inefficient buildings with modern, energy-efficient, sustainable buildings. The installation's NZEP and SP projects would reduce the amount of energy consumed at the installation and encourage the use of energy from renewable, non-fossil-fuel-based sources. The installation would achieve a net-zero energy footprint after full implementation of the NZEP projects.

## 4.7 Natural or Depletable Resource Requirements and Conservation Potential

The Proposed Action would require the use of natural or depletable resources such as construction materials, fuels, and raw materials; however, use of these resources would not be significant.



## 5 Summary of Potential Environmental Effects

The introduction to **Section 3** provides information on which resource areas were selected to be analyzed in detail in this EA and the rationale behind each decision. **Table 5-1** summarizes the potential impacts of the Proposed Action and the No Action Alternative on the environmental resource areas analyzed in detail in **Section 3**. Implementation of the Proposed Action or No Action Alternative would not result in any individual or cumulatively significant environmental effects. Therefore, preparation of an EIS is not warranted, and issuance of a Finding of No Significant Impact would be appropriate.

**Table 5-1. Potential Effects of the Proposed Action and No Action Alternative**

Resource Area	Proposed Action Effects	No Action Alternative Effects
Airspace Management	Programmatic Projects: Long-term, minor, beneficial effects MILCON Project H: No effects	No effects
Land Use and Recreation	Programmatic Projects: Long-term, minor, beneficial effects (land use); long-term, minor, beneficial and adverse effects (recreation) MILCON Project H: Long-term, minor, beneficial effects (land use); no effects (recreation)	No effects
Noise	Programmatic Projects: Long-term, minor, adverse and beneficial effects MILCON Project H: Short-term, minor, adverse effects	No effects
Air Quality	Programmatic Projects: Short- and long-term, minor, adverse and beneficial effects MILCON Project H: Short-term, minor, and long-term, negligible to minor, adverse effects	No effects
Geological Resources	Programmatic Projects: Long-term, negligible, adverse effects (topography); long-term, minor, adverse and beneficial effects (soils); no effects (geology and geologic hazards) MILCON Project H: Long-term, minor, adverse effects (soils); no effect (geology, topography, and geologic hazards)	No effects
Water Resources	Programmatic Projects: Long-term, minor, adverse and beneficial effects (groundwater and surface water); no effects (floodplains); long-term, minor, beneficial effects (wetlands) MILCON Project H: Long-term, negligible, adverse effects (groundwater and surface water); no effects (floodplains and wetlands)	No effects
Biological Resources	Programmatic Projects: Short-term and long-term, minor, adverse; long-term, minor, beneficial effects MILCON Project H: Short-term and long-term, minor, adverse effects	No effects

Infrastructure and Transportation	Programmatic Projects: Long-term, minor, adverse effects; long-term, minor to moderate, beneficial effects MILCON Project H: Short-term and long-term, negligible, adverse effects	No effects
Hazardous Materials and Wastes	Programmatic Projects: Long-term, minor, beneficial effects MILCON Project H: Short-term, minor, adverse effects	No effects

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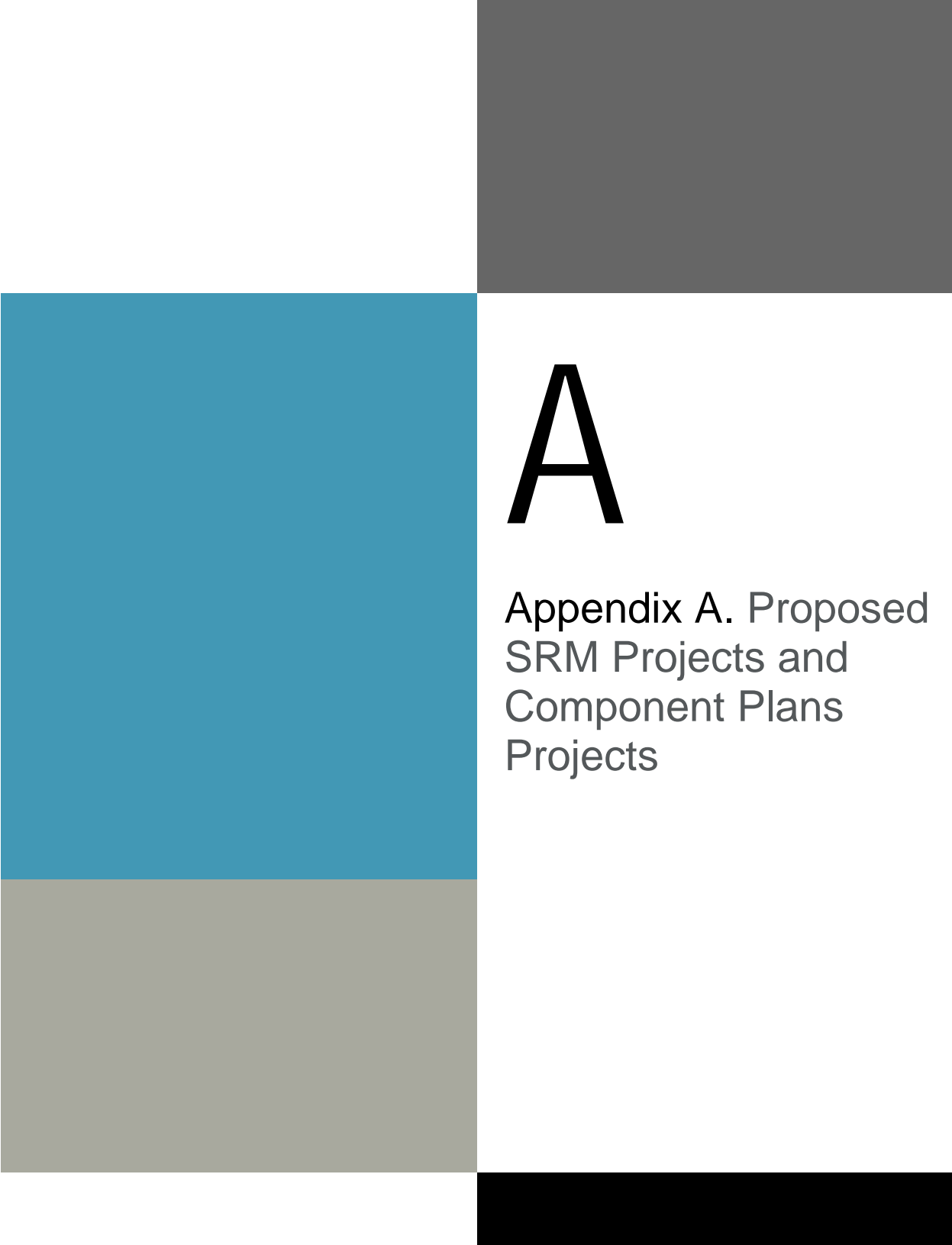


## 7 Preparers

This EA has been prepared by HDR, Inc. under the direction of DLA personnel.



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# A

## Appendix A. Proposed SRM Projects and Component Plans Projects

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**Table A-1. Master Plan Sustainment, Restoration, and Modernization Projects**

<b>Fiscal Year 2019 Projects</b>
Static Display Maintenance
Demolition of Building 1
Repair Gutters (Building 3)
Replace Heating System (Building 3)
Repair Gutters (Building 4)
Replace Heating System (Building 4)
Repair Gutters (Building 5)
Replace Heating System (Building 5)
Replace three Lintels (support for top of door) and Repair Wall (Building 10)
Install High-Speed Door (Building 11)
Remove and Replace Concrete Floor at Door K-5, Bay 1 (Building 11)
Install Manual Transfer Switch (Building 12)
Demolition of Building 14
Renovate Family Housing Unit 38
Renovate Family Housing Unit 39
Install Angle Dock with Dock Leveler (Building 50)
Install Man Door Next to Southwest Garage Door (Building 50)
Repair Building Envelope (Building 50)
Replace Concrete on North Side of Dock at Door 006 (Building 51)
Repair Building Envelope (Building 51)
Replace Roof (Building 52)
Repair Building Envelope (Building 52)
Repair Building Envelope (Building 53)
Install Stairs/Ladders (Building 54)
Phase 2 of Materials Handling Equipment – Center of Excellence (Building 54)
Install Roof Access Stairs (Building 79)
Repair Door Openers (Building 81)
Install Stairs/Ladders (Building 82)



Renovate Building 82
Replace Exterior Stairs (Building 87)
Fence Exterior Dock and Roll Doors (Building 87)
Install Garage Door Security Screens (Building 87)
Replace Boilers (Building 89)
Remove and Replace Concrete Floor (Building 109)
Install High-Speed Door (Building 110)
Renovate Bathrooms (Building 110)
Repair Fire Pump (Building 111)
Roll-Up Security Gates and Roll-Up Doors (Building 111)
Renovate Family Housing Unit 161
Renovate Family Housing Unit 164
Renovate Family Housing Unit 165
Renovate Family Housing Unit 166
Renovate Family Housing Unit 167
Renovate Family Housing Unit 168
Renovate Family Housing Unit 176
Construct Restroom and Replace Heating Ventilation Unit (Building 204)
Renovate Bathrooms (Building 205)
Remove and Replace Concrete Floor (Building 301)
Remove and Replace Concrete Floor Between Column F and 17/18 (Building 302)
Repair Leaks at Fitness Center (Building 320)
Install High-Speed Doors (Building 402)
Repair Door Openers (Building 430)
Renovate Bathrooms (Building 509)
Install Stairs/Ladders (Building 780)
Replace Truck Bay Doors (Building 911)
Dispatch Open Floor Plan (Building 911)
Replace Fuel Tank Cathodic Protection and Monitoring System (Building 941)

Replace O Avenue between Third and Fifth Streets (Building 1001)
Pothole Repair: N Avenue between Warehouses 52 and 53 (Building 1001)
Replace Sanitary Sewer at 300 (Building 1003)
Rehabilitate Drainage Channel at V Avenue (Building 1004)
Repair Steam System Phase 3 (Building 1005)
Repair Steam System Phase 3 (Building 1012)
Upgrade and Repair Exterior Electrical System (Building 1014)
Repair and Upgrade Upper Depot Sidewalks (Building 1020)
Repair Bridge over Marsh Run (Building 1203)
Warehouse Striping, DK01 and DK04 Areas (Building 2001)
Enclose Machine Shop, 12-foot walls, No Ceiling, Poles M27-Q27 (Building 2001)
Fill Pits at Main Line, Spur, Stop Pits Around Poles S35, T35 (Building 2001)
Heating/Ventilation/Air Conditioning System Repairs, Administration Area (Building 2001)
Repair Concrete Floor Behind Truck Wells (Building 2001)
Renovate Room OS110 (J6 Offices) (Building 2001)
Install Weather Protection at Access Control Point 4 Vehicle Inspection Canopy (Building 2082)
Install Weather Protection at Access Control Point 4 Search Office (Building 2083)
Repair/Upgrade Various Doors Sitewide (Multiple Buildings)
Replace Interior Electrical Infrastructure (Arc Flash Study) (Multiple Buildings)
Install Smoke Shelters (Multiple Buildings)
Utility Removal in Military Family Housing Area (Multiple Buildings)
Replace Fire Alarm Panels (Multiple Buildings)
<b>Fiscal Year 2020-2023 Projects</b>
Replace Lighting (Building 54)
Replace Roof (Building 54)
Renovate Switchgear and Substations (Building 54)
Sprinkler Head Replacements at Roof-Level Bays 2 to 5 (Building 54)
Selective Demolition, Strip Bay 1 (Building 54)
Replace Flooring in Bar Area (Building 79)

Repair Sprinklers (Building 80)
Heating/Ventilation/Air Conditioning System Replacement (Building 80)
Replace Roof (Building 81)
Convert from Steam to Gas Boiler (Building 84)
Replace Mechanical Mezzanine with New Mechanical Room (Building 85)
Replace Roof (Building 85)
Replace Rubber Membrane Roof (Building 87)
Repair Heating/Ventilation/Air Conditioning System (Building 87)
Install New Generator, Mechanical Control, and Heating/Ventilation/Air Conditioning System Upgrades (Building 89)
Heating/Ventilation/Air Conditioning System Replacement (Building 89)
Repair Heating/Ventilation/Air Conditioning Control System (Building 320)
Replace Sinks and Countertop (Building 320)
Demolition of Building 400
Demolition of Building 401
Remove Underground Storage Tanks (Building 411)
Reconfigure Parking Areas Lots 620 and 626 (Building 601)
Parking Lot Rehabilitation FY20 (Building 601)
Parking Lot Rehabilitation FY21 (Building 601)
Parking Lot Rehabilitation FY22 (Building 601)
Parking Lot Rehabilitation FY23 (Building 601)
Repair Sprinklers (Building 732)
Office Exterior Wall Insulation (Building 750)
Dispatch Open Floor Plan (Building 911)
Repair Heating/Ventilation/Air Conditioning System and Envelope (Building 911)
Perimeter Fence Line Rehabilitation Phase II (Building 944)
Perimeter Fence Line Rehabilitation Phase III (Building 944)
Installation-wide Traffic Signage Upgrade (Building 1001)
Replace U and V Avenue Phase II (Building 1001)
Replace U and V Avenue Phase III (Building 1001)

Replace Third Street (Building 1001)
Roadway Rehabilitation FY20 (Building 1001)
Roadway Rehabilitation FY21 (Building 1001)
Roadway Rehabilitation FY22 (Building 1001)
Roadway Rehabilitation FY23 (Building 1001)
Install Second Water Feed to EDC (Building 1002)
Repair Storm Sewers FY20 (Building 1004)
Repair Storm Sewers FY21 (Building 1004)
Repair Storm Sewers FY22 (Building 1004)
Repair Storm Sewers FY23 (Building 1004)
Steam System Repairs, Phase 3 (Building 1011)
Steam System Repairs, Phase 4 (Building 1012)
Arc Flash Study 5-Year Renewal (Building 1014)
Pole Replacement (Building 1014)
Repair Sidewalks FY20 (Building 1020)
Repair Sidewalks FY21 (Building 1020)
Repair Sidewalks FY22 (Building 1020)
Repair Sidewalks FY23 (Building 1020)
Access Control Point 4 Truck Route Contingency Plan (Building 1203)
Heating/Ventilation/Air Conditioning System Upgrades in Administration Area (Building 2001)
Construct Storefront, In-Flight Cafe (Building 2001)
Upgrade Second Floor with Furniture (Building 2001)
J1 Office Renovation (Building 2001)
Replace Generators (Building 2001)
Replace/Upgrade Switchgear/Matrix System/Substation/Surge Protection/Grounding (Building 2001)
Envelope Repairs (Building 2001)
Repair Sprinklers (Building 2001)
Repair Fire Pumps (Building 2003)
Replace Air Handling Unit 8 (Building 54-2)



Replace Air Handling Unit 1 (Building 54-2)

Replace Air Handling Unit 68 (Building 54-3)

Replace Air Handling Unit 25 (Building 54-3)

Replace Air Handling Units 2, 104, and 110 (Building 54-4)

Replace Air Handling Unit 105 (Building 54-5)

Replace Air Handling Unit 2 (Building 54-5)

Replace Air Handling Units 103 and 106 (Building 54-5)

Replace Air Handling Units 3 and 107 (Building 54-5)

Repair Docks (Buildings 82, 83, 84, and 85)

Install Smoke Shelters (Multiple Buildings)

FY20 Installation Commander's Discretionary Allowance Projects (Multiple Buildings)

FY21 Installation Commander's Discretionary Allowance Projects (Multiple Buildings)

FY22 Installation Commander's Discretionary Allowance Projects (Multiple Buildings)

FY23 Installation Commander's Discretionary Allowance Projects (Multiple Buildings)

Replace Lighting in Buildings 82, 83, 84, and 85

Mitigate Access Control Point 1 Security Findings (Multiple Buildings)

Construct Roundabout at Intersection of Mifflin and J Avenue

Surge Protection System Devices, Various Warehouses (Multiple Buildings)

Grounding for Warehouses 50–59 (Multiple Buildings)

Repair Rear Docks FY20 (Multiple Buildings)

Repair Rear Docks FY21 (Multiple Buildings)

Repair Rear Docks FY22 (Multiple Buildings)

Repair Rear Docks FY23 (Multiple Buildings)

Renovate Access Control Point 1

New Parade Ground

New Running Track

Create Temporary Mail-Sorting Facility

Relocate Electrical Substation

Construct Credit Union

## Fiscal Year 2024–2028 Projects

Parking Lot Rehabilitation FY24 (Building 601)

Roadway Rehabilitation FY24 (Building 1001)

Repair Storm Sewers FY24 (Building 1004)

Repair Sidewalks FY24 (Building 1020)

FY24 Installation Commander's Discretionary Allowance Projects (Multiple Buildings)

Repair Rear Docks FY24 (Multiple Buildings)

Construct Charging Stations for Hybrid and Electric Vehicles

Construct Traffic Circle at Main Intersection

Relocate Clinic

Designate Walking Areas between Warehouses

Construct G Avenue Pedestrian Walk

Construct Roundabout at Intersection of Cherry Lane and Mifflin Avenue

**Table A-2. Net-Zero Energy Plan Projects**

<b>Energy-Reducing Projects</b>
Conversion of Building 87 from steam to hot water and replacement of heating, ventilation, and air conditioning; control systems; and transpired solar collectors
Building 400 boiler replacement and natural gas conversion
Building 315 heating, ventilation, and air conditioning unit replacement and conversion to natural gas (94 percent efficient condensing boiler)
Building 316 heating, ventilation, and air conditioning unit replacement and conversion to natural gas (94 percent efficient condensing boiler)
Lighting Building 80 with sensors (T5 high output with motion sensor)
Lighting Building 89 with sensors (T5 high output with motion sensor)
Lighting Building 53 with sensors (T5 high output with motion sensor)
Conversion of Building 300 to natural gas and replacing heating, ventilation, and air conditioning equipment
Lighting Building 51 (T5 high output with motion sensors)
Lighting Building 56 (T5 high output with motion sensors)
Lighting Building 55 (T5 high output with motion sensors)
EDC administrative cafeteria refrigeration system replacement
Lighting Building 50 (T5 high output with motion sensors)
Lighting Building 52, Bays 4 and 5 (T5 high output with motion sensors)
Add motion sensors to last 30 percent of T5 high output lights in Building 84
Add motion sensors to last 30 percent of T5 high output lights in Building 83
Add motion sensors to last 30 percent of T5 high output lights in Building 82
Add motion sensors to last 30 percent of T5 high output lights in Building 85
Add motion sensors to last 30 percent of T5 high output lights in Building 87
EDC transpired solar collector
Lighting and building envelope changes (such as replacing boilers, chillers, windows, insulation, lighting, and electric dampers)
Installation of a central control system
Implementation of an awareness program
Building demolition and construction projects identified in the Real Property Master Plan
<b>Fleet Management Projects</b>
Exchange 12 fossil-fueled light truck vehicles for alternative-fueled vehicles
Exchange 18 poor-performing vehicles in the notional fleet

Exchange 20 vehicles for the right vehicle

Exchange 2 fossil-fueled heavy truck vehicles and passenger vehicles for alternative-fueled vehicles

Turn in 93 excess vehicles

Exchange 127 gasoline forklifts for electric/propane-butane forklifts

Reduce equipment fleet size by 189 pieces

### **Microgrid Projects**

PRC 1: Collect data

PRC 2: Establish metrics, baselines, and future projections of energy, fuel, and renewables

PRC 3: Implement education and awareness

PRC 4: Perform Level 1 analysis of renewable energy

PRC 5: Perform assessment of influencers to maximize energy conservation, energy controls, and energy efficiency

PRC 6: Perform assessment of project implementation support

PRC 7: Develop characteristics of microgrid

PRC 8: Develop management and implementation plans

PRC 9: Develop measures and time periods to validate performance

PRC 10: Continually evaluate and make modifications to program

PRC 11: Study for abnormalities in voltage regulation, protection and coordination, voltage stability, rotor angle stability, and frequency regulation

MRV 1: Update PRC1 through PRC 9

MRV 2: Perform additional studies (feasibility of alternative, environmental requirements)

MRV 3: Obtain permits

MRV 4: Execute steady-state measurement and verification protocol

PPT 1: Obtain HOMER (microgrid software)

TRN 1: Train HOMER (microgrid software)

TRN 2: Provide operations and maintenance training on microgrid, controls, and SMART technology

TRN 3: Provide supervisory training for microgrid, controls, and SMART technology

### **Renewable Energy Projects**

Transpired solar collectors for Buildings 82, 732, 760, 765, and 2001

15-megawatt biomass plant at Defense Distribution Center, Susquehanna in 2035

**Table A-3. Sustainability Plan Projects**

ENG 1: Energy-efficient heating, ventilation, and air conditioning equipment
ENG 2: Energy-efficient lighting and controls
ENG 3: Building level metering-benchmarking
ENG 4: Energy awareness
ENG 5: Establish a Building Energy Monitor program
ENG 6: Centralized access and control of Direct Digital Controls systems
ENG 7: Training for energy team
ENG 8: Energy procurement
ENG 9: Innovate design for new buildings
ENG 10: Maximize available energy funding sources
ENG 11: Replace roofs using “cool roof” technology, where economically feasible
ENG 12: Form a Sustainability Council
ENG 13: Continue regular contact with utility providers
NZE 1: Plan for a smart microgrid
NZE 2: Connect renewable and electrical systems
W 1: Water Management Plan
W 2: Water-efficient plumbing fixtures
W 3: Water-efficient landscaping plant selection
W 4: Water-efficient irrigation systems
W 5: Leak-detection studies and leak repairs
W 6: Water meter data analysis and reporting
W 7: Water customer education
W 8: Volume-based billing
W 9: Treated wastewater reuse for irrigation
W 10: Gray water use for toilet flushing or irrigation
W 11: Rooftop water harvesting and cistern collection for toilet flushing or irrigation
W 12: Stormwater capture in ponds and reuse for irrigation
W 13: Rain gardens and other measures to increase infiltration and reduce runoff
W 14: Assess availability of long-term water supply



W 15: Continue regular contact with utility providers
WST 1: Vendor take-back program
WST 2: Pallet provider
WST 3: Vendor deliveries
WST 4: Vendor packaging
WST 5: Compostable material
WST 6: Reusable service ware
WST 7: Exchange program
WST 8: Recycle film plastic and foam
WST 9: Recycle mixed rigid plastics
WST 10: Composting
WST 11: Evaluate new technologies
WST 12: Digester units
WST 13: Develop outreach program
WST 14: Report results
WST 15: Workshops for tenants
WST 16: Recognition programs
WST 17: Training for custodial crews
WST 18: Awareness for family housing occupants
WST 19: Quantify program and greenhouse gas reductions
FSL 1: Increase alternative-fuel vehicles and electric cars for government-owned vehicles
FSL 2: Increase electric charging/plug-in stations
FSL 3: Evaluate alternative energy sources via provider
FSL 4: Evaluate long-term conversion of Central Heating Plant to cogeneration, dual-fuel
FSL 5: Develop bike and pedestrian network
FSL 6: Encourage commercial transit
FSL 7: Review regional short- and long-term transportation growth plans
FSL 8: Implement transportation improvements and Access Control Point access
FSL 9: Develop a plan to ensure all light-duty trucks will be fueled by alternative fuels by December 2015

FSL 10: Balance the fleet
HPB 1: Develop a standard set of energy- and water-efficient technologies to incorporate into each building type
HPB 2: Provide training opportunities to staff
HPB 3: Develop and implement guidelines for comfort control
HPB 4: Integrate energy-intelligent equipment into new projects
HPB 5: Integrate maximum degree of automation
HPB 6: Develop and fund feasible Memorandum of Understanding compliance program
IAQ 1: Enhance awareness of indoor air quality, including green materials, green cleaning, and air infiltration
IAQ 2: Develop and implement a mold-reduction plan
GHG 1: Inventory greenhouse gas sources
GHG 2: Establish 2008 greenhouse gas baseline
GHG 3: Establish annual greenhouse gas measure and reporting
GHG 4: Implement a greenhouse gas education and awareness program
GHG 5: Develop a street planting plan
GHG 6: Pursue a Tree City USA program
GHG 7: Minimize vehicle parking paved surfaces; permeable pavement/grass pave type technology
GHG 8: Pursue strategies to reduce greenhouse gas emissions
GHG 9: Consolidate data centers
URS 1: Conduct formal study of installation-wide systems
URS 2: Monitor ingress/egress with cameras and motion detectors
URS 3: Place critical systems underground
URS 4: Use electrical and renewable energy
URS 5: Ensure utility adequacy
URS 6: Develop and install a secure microgrid
EMS 1: Maintain and improve Environmental Management System
EMS 2: Verify general compliance with Department of Defense Strategic Sustainability Performance Plan guidance
EMS 3: Comply and track the Department of Defense's Strategic Sustainability Performance Plan
PRO 1: Emphasize procurement practices for energy-efficient appliances and green products
PLN 1: Meet with regional transportation planning, renewable energy, watershed, and environmental management departments

PLN 2: Reduce footprint

PLN 3: Follow best practices for land planning

MRV 1: Develop and maintain monitoring and verification protocols

MRV 2: Procure and maintain meters

MRV 3: Develop and maintain audit program

MRV 4: Commission and recommission buildings

MRV 5: Measure and verify building performance

MRV 6: Measure and verify recently installed energy-conservation measures, energy-efficiency measures, water-conservation measures, water-efficiency measures, and aspects of sustainability component systems

**Table A-4. Integrated Pest Management Plan Projects**

All in-house pest controllers will be Department of Defense certified
All newly hired in-house pest controllers will attend the Department of Defense course
All in-house pest controllers will complete recertification every 3 years
Recurring pest management requirements include pest control standing service orders (year round), services requested through work orders (year round), and road shoulder maintenance and fence lines (every 6 months)
Major pieces of equipment will be programmed for replacement according to a schedule to ensure continuity of operations
A pesticide mixing/equipment storage hardstand should be constructed at the golf course maintenance shop to fulfill environmental safeguard requirements

**Table A-5. Integrated Natural Resources Management Plan Projects**

Provide training to installation staff on goals and objectives of the Integrated Natural Resources Management Plan and their roles
Use geodatabases to store, manage, analyze, interpret, and report data
Conduct flora and fauna surveys at established intervals (every 3 to 5 years)
Survey for sensitive species and identify tasks to protect these species when appropriate
Initiate projects to improve habitats for listed species
Develop special status species identification sheets, avoidance information, and related maps
Implement the measures outlined in the U.S. Fish and Wildlife Service Guidance on Developing and Implementing an Indiana Bat Conservation Plan (revised February 2013)
Actively manage forested habitat for the federally threatened northern long-eared bat and the federally endangered Indiana bat by releasing roost trees and controlling invasive species in potential habitat
Implement the U.S. Fish and Wildlife Service Forest Management Guidelines for northern long-eared bat summer habitat and swarming habitat
Conduct a Phase II bog turtle survey for any proposed project within 300 feet of the Marsh Run wetland complex
Monitor and manage the compensatory wetland mitigation site in compliance with the permit
Maintain and update wetland inventory data, including wetland distribution and categories
Monitor impacts on wetlands from training activities
Implement provisions of the Storm Water Pollution Prevention Plan
Monitor groundwater to include drinking water, suspected pollution sources, and known plumes
Conduct biotic surveys every 10 years to monitor significant changes in wildlife species
Provide annual training for natural resources management on a military installation
Conduct bird, small mammal, reptile, amphibian, and plant surveys
Conduct surveys of activity sites to determine if migratory bird nests are present and active
Develop effective management for minimizing the unintentional take of migratory birds
Identify bird/wildlife aircraft strike hazards to the adjacent airfield
Survey areas where soil erosion and compaction might occur to ensure that best management practices within the Erosion and Sedimentation Plan are implemented and effective
Implement recommendations from the erosion survey and reseed or restore as needed
Identify the desired trees for daylighting and the trees to be removed to support timber stand improvement
Daylight desired trees (i.e., oak, cherry, and hickory)
Establish best management practices to prevent new species from becoming established
Include language in contracts to prevent the spread of invasive plant species on the installation



Implement pest management controls and other pest-related guidance and plans

Obtain appropriate permits for nonnative and invasive plant species eradication in wetland areas

Attend the National Military Fish & Wildlife Association annual training

Cooperate with other federal and state agencies to ensure that natural resources laws are adequately enforced

Create a public access protocol

Establish a watchable wildlife program

Educate the community, installation personnel, and tenants about the natural resources program

Periodically review and update outreach and education materials