FINAL

Amendment to

Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia

Amended by Fort A.P. Hill and U.S. Army Corps of Engineers – Mobile District

June 2020

Prepared for

Fort A.P. Hill
Directorate of Public Works
19952 North Ranger Road, Building 1220
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and

U.S. Army Corps of Engineers – Mobile District
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Final Finding of No Significant Impact
Amendment to
U.S. Army Reserve
Military Construction Project
Fort A.P. Hill, Caroline County, Virginia

Pursuant to the Council on Environmental Quality's regulations for implementing the procedural provisions of National Environmental Policy Act (NEPA), 40 *Code of Federal Regulations* (CFR), Parts 1500 to 1508, 42 United States Code 4321 et seq., and "Environmental Analysis of Army Actions," 32 CFR 651, Fort A.P. Hill (FAPH) prepared an Amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia.*

A Final Environmental Assessment (EA) was prepared and a finding of no significant impact (FNSI) was signed on March 5, 2017. The Final EA and FNSI determined that there would be no significant impact resulting from the Preferred Alternative, and the U.S. Army Reserve (USAR) began constructing an equipment concentration site (ECS) at FAPH in Caroline County, Virginia. Construction is now approximately 70 percent complete. However, FAPH identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the EA. The originally proposed footprint of the new ECS remains the same, but the ECS footprint shifted east to include the 10-acre parcel. Therefore, the EA was amended to include the additional 10-acre parcel.

The Amendment to the EA (Amended EA) was prepared to evaluate the potential environmental consequences associated with the change in the location of the ECS construction to include the additional 10-acre parcel. The Amended EA is incorporated by reference to this FNSI.

Background

The USAR's mission is to provide trained, equipped, and ready Soldiers, Leaders, and Units to meet the United States' requirements at home and abroad. The USAR 99th Readiness Division has an ECS at Fort Pickett, Virginia. Units that use the Fort Pickett ECS currently come from Richmond, Fort Lee, and FAPH to retrieve military equipment from the ECS and then must travel to FAPH, approximately 40 miles, to conduct training exercises. At the completion of the training exercises, units must return the military equipment to the Fort Pickett ECS. Travel hours needed to retrieve and return the equipment take away from unit training hours. In addition, the ECS facilities at Fort Pickett are in World War II-era wooden buildings, which are in constant need of repair, are not energy efficient, are overcrowded, and are not properly configured for this purpose. Therefore, the USAR 99th Readiness Division is constructing a new ECS at FAPH to reduce travel time and to provide up to date and adequate facilities.

Description of the Proposed Action

The Proposed Action consists of construction and operation of an ECS at FAPH, Virginia. The ECS would employ approximately 41 full-time civilian employees during the week. Construction is approximately 70 percent complete, and operation of the facility is anticipated to start after construction is completed. The ECS maintenance facility identified in the original EA is under construction in accordance with the modified tactical equipment maintenance facility (TEMF) standard.

Once completed, the ECS will include a 27,443-square-foot TEMF, a 55,000-square-foot general purpose warehouse, a bilevel equipment loading ramp, and parking areas for military equipment and privately owned vehicles. The Proposed Action also includes construction of stormwater management features. The TEMF includes five drive-through work bays, administrative offices, locker rooms, toilets and showers, a classroom and break area, library, tool and parts room, welding shop, tire changing area, arms vault, and maintenance areas for in and out processing of military equipment. The warehouse includes space to store large items that need a climate-controlled environment. The design will comply with the Leadership in Energy and Environmental Design Silver standard, feature low-impact development, and consider renewable energy initiatives.

Additional construction activities would consist of paving, fencing, making general site improvements, and extending utilities to serve the new facilities. Some grading and leveling of land is required on site. Disturbed areas that are not within the footprint of the proposed buildings or parking areas would be landscaped and used to meet security setback requirements. Physical security measures or antiterrorism/force protection measures incorporated into the design include setbacks from roads, parking areas, and vehicle unloading areas. Buildings would comply with the Americans with Disabilities Act.

Purpose and Need

The purpose of the Proposed Action is to co-locate equipment storage and training facilities at FAPH. The Proposed Action is needed because the current ECS is geographically separated from the training area at FAPH. Units supported by the ECS at Fort Pickett come from Richmond, Fort Lee, and FAPH to retrieve equipment and then travel to FAPH to conduct training exercises. After completing the training exercises, units must return the equipment to Fort Pickett. Travel time needed to retrieve and return the equipment takes away from unit training hours. In addition, the ECS at Fort Pickett is contained in World War II-era wooden buildings, which are in constant need of repair, are not energy efficient, are overcrowded, and are not properly configured for this purpose. Without construction of the ECS at FAPH, units would continue to use training hours to retrieve and return equipment, and to work in substandard and crowded facilities.

Alternatives

A key principle of NEPA is that agencies give consideration to a range of alternatives for a proposed action. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be affordable, capable of implementation, and satisfactory with respect to meeting the purpose of and need for the action. The following subsections identify alternatives considered and indicates whether the alternatives are reasonable and, therefore, subject to detailed evaluation in this Amended EA.

Alternatives Considered

Two alternatives were considered in this Amended EA: (1) Preferred Alternative and (2) No Action Alternative.

Preferred Alternative

Under the Preferred Alternative, the USAR is constructing and will operate the new ECS on approximately 41 acres of land (Project Area) northwest of the intersection of Shackleford Road and A.P. Hill Drive. The Project Area is wooded with a tank trail, the Tator Trail, bisecting the parcel on a north/south line, and a concrete-vaulted latrine along the tank trail. The concrete latrine building is being demolished as part of the Preferred Alternative. No other structures are present within the Project Area. The entrance to the new ECS would be from Shackleford Road. Stormwater management features would be constructed within the Project Area. Lighting would meet the FAPH dark skies technologies' requirements to prevent light pollution at night. The procedures in the FAPH Environmental Handbook, which outline personnel responsibilities, policies and procedures, and guidance for managing environmental resources at FAPH, will be followed during construction and operation of the new ECS.

No Action Alternative

Under the No Action Alternative, new facilities would not be constructed. If the No Action Alternative was implemented, the USAR would continue to provide inadequate facilities to train the USAR units, and training hours would continue to be wasted retrieving and returning military equipment to and from Fort Pickett. This would negatively affect training and operations, resulting in a reduced ability to achieve the USAR mission, which could compromise readiness and security. As a result, the No Action Alternative does not fulfill the Proposed Action's purpose and need. It is included in the Amended EA's analysis as a baseline against which the impacts of the other alternatives can be compared.

Potential Environmental Impacts

The Amended EA contains a comprehensive evaluation of the existing conditions and environmental consequences of implementing the Preferred Alternative and the No Action Alternative, as required by NEPA. Based on the analyses presented in the Amended EA, implementing the Preferred Alternative is anticipated to result in direct and/or indirect impacts to environmental resources, including land use, soils, topography, surface water and groundwater resources, air quality, vegetation, wildlife, noise, visual resources, utilities, hazardous substances, and socioeconomics. However, effects to these resources are expected to be insignificant. No direct impacts would occur under the No Action Alternative.

There would be negligible or no impacts to land use, geology, farmland soils, floodplains, federally listed threatened or endangered species and critical habitat, state-listed threatened or endangered species, cultural resources, environmental justice, and protection of children. The Preferred Alternative would not contribute significantly to the cumulative effects on the surrounding resources.

Best Management Practices

The following best management practices (BMPs) were implemented under the Preferred Alternative as outlined in the 2017 Final EA and will continue until construction is complete:

- The procedures in the FAPH Environmental Handbook, which outline personnel responsibilities, policies and procedures, and guidance for managing environmental resources at FAPH, will be followed during construction and operation of the new ECS.
- An erosion and sediment control plan, stormwater management plan, and a stormwater pollution prevention plan will be prepared in accordance with the Virginia Department of

Environmental Quality regulations. The appropriate stormwater permits will be obtained.

- Erosion and sediment controls and stormwater management facilities will be installed in accordance with the Virginia Department of Environmental Quality's approved erosion and sediment control plan, stormwater management plan, and the stormwater pollution prevention plan.
- Vegetation will not be cleared during the migratory bird nesting season (April 15 through July 1) without conducting a preconstruction survey to determine whether nesting birds are present. If nesting migratory birds are found during the preconstruction survey, then those locations within the Project Area containing nesting birds would not be disturbed or cleared until the young have naturally vacated the nest. Through coordination with the U.S. Fish and Wildlife Service, a buffer would be established around each nest to minimize potential for nest abandonment resulting from nearby construction activity. Areas within this buffer would not be cleared.
- Contractors will maintain construction equipment in accordance with manufacturers' specifications to keep unnecessary noise impacts to a minimum.
- Maintenance and refueling of construction equipment would likely occur on the site. A spill prevention, control, and countermeasures plan will be in place, per FAPH Regulation 200-2.
- Dust control measures will be in place during construction. These control measures could include the application of water to areas of bare soil to reduce dust and particles in the air.
- The site design will incorporate Energy Independence and Security Act Section 438 stormwater compliance and Leadership in Energy and Environmental Design site development and stormwater requirements. Strategies may include green infrastructure and low-impact development practices.

In addition to the BMPs implemented under the Preferred Alternative as outlined in the 2017 Final EA, Fort A.P. Hill will perform all project activities in accordance with Virginia Department of Environmental Quality's recommendations provided in the Environmental Impacts and Mitigation section of their April 30, 2020 comment letter included in Appendix B of the Final EA.

Public Review and Comment

The Amended EA and draft FNSI were made available to the public for comment for a period of 30 days on the Internet at https://home.army.mil/aphill/index.php/my-fort/all-services/environmental/national-environmental-policy-act. The public notice was published in the *Freelance Star* newspaper. Comments were received from the Virginia Department of Environmental Quality and Virginia Department of Historic Resources. Comments received did not warrant changes to the EA. No comments from the public were received.

NEPA Determination

Based on the findings of this EA, there would be no significant impact resulting from the Preferred Alternative. This FNSI was prepared to accompany the EA, which concludes that preparation of an environmental impact statement is not required for this Proposed Action.

Signature

Approved by:

GATES.MICHAEL.E.1047363337 Digitally signed by GATES.MICHAEL.E.1047363337 Date: 2020.06.15 16:59:39 -04'00'

GATES.MICHAEL.E.1047363337 Digitally signed by GATES.MICHAEL.E.1047363337 Date: 2020.06.15 17:03:53 -04'00'

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

Date

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Acronyms and Abbreviations

Amended EA	Amendment to the EA
BMP	best management practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
EA	Environmental Assessment
ECP	environmental condition of property
ECS	equipment concentration site
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESCP	erosion and sediment control plan
FAPH	Fort A.P. Hill
FEMA	Federal Emergency Management Agency
FNSI	finding of no significant impact
GHG	greenhouse gas
HAP	hazardous air pollutant
LEED	Leadership in Energy and Environmental Design
MBTA	Migratory Bird Treaty Act
N/A	not applicable
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSR	New Source Review

PM_{10}	particulate matter less than or equal to 10 micrometers in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 micrometers in diameter
PSD	prevention of significant deterioration
SO_2	sulfur dioxide
TEMF	tactical equipment maintenance facility
USACE	U.S. Army Corps of Engineers
USAR	U.S. Army Reserve
VDEQ	Virginia Department of Environmental Quality
VOC	volatile organic compound
XCEL	XCEL Engineering, Inc.

Executive Summary

Fort A.P. Hill has prepared this Amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia* to evaluate the potential environmental consequences associated with the change in the equipment concentration site (ECS) construction footprint. A Final Environmental Assessment (EA) was prepared and a finding of no significant impact (FNSI) was signed on March 5, 2017, and these determined that there would be no significant impact resulting from the Preferred Alternative. The U.S Army Reserve (USAR) 99th Readiness Division began constructing the ECS at Fort A.P. Hill (FAPH) in Caroline County, Virginia. Construction is approximately 70 percent complete. However, FAPH identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the EA. The originally proposed footprint of the new ECS remains the same but the location shifted east to include the 10-acre parcel. Therefore, the EA was amended to include the additional 10-acre parcel. This Amendment to the EA (Amended EA) was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA); the Council on Environmental Quality's regulations for implementing the procedural provisions of NEPA; 40 *Code of Federal Regulations* (CFR), Parts 1500 to 1508; 42 United States Code 4321 et seq.; and "Environmental Analysis of Army Actions," 32 CFR 651.

Background

The USAR's mission is to provide trained, equipped, and ready Soldiers, Leaders, and Units to meet the United States' requirements at home and abroad. The USAR 99th Readiness Division has an ECS at Fort Pickett, Virginia. Units that use the Fort Pickett ECS currently come from Richmond, Fort Lee, and FAPH to retrieve military equipment from the ECS and then must travel to FAPH, approximately 40 miles, to conduct training exercises. At the completion of the training exercises, units must return the military equipment to the Fort Pickett ECS. Travel time needed to retrieve and return the equipment take away from unit training time. In addition, the ECS facilities at Fort Pickett are in World War II-era wooden buildings, which are in constant need of repair, are not energy efficient, are overcrowded, and are not properly configured for this purpose. Therefore, the USAR 99th Readiness Division is constructing a new ECS at FAPH to reduce travel time and to provide up to date and adequate facilities.

Description of the Proposed Action

The Proposed Action consists of construction and operation of an ECS at FAPH, Virginia. The ECS would employ approximately 41 full-time civilian employees during the week. Construction is approximately 70 percent complete, and operation of the facility is anticipated to start after construction is completed.

The ECS maintenance facility identified in the original EA is under construction in accordance with the modified tactical equipment maintenance facility (TEMF) standard. Once completed, the ECS will include a 27,443-square-foot TEMF, a 55,000-square-foot general purpose warehouse, a bilevel equipment loading ramp, and parking areas for military equipment and privately owned vehicles. The Proposed Action also includes construction of stormwater management features. The TEMF includes five drive-through work bays, administrative offices, locker rooms, toilets

and showers, a classroom and break area, library, tool and parts room, welding shop, tire changing area, arms vault, and maintenance areas for in and out processing of military equipment. The warehouse includes space to store large items that need a climate-controlled environment. The design will comply with the Leadership in Energy and Environmental Design Silver standard, feature low-impact development, and consider renewable energy initiatives.

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The purpose of the Proposed Action is to co-locate equipment storage and training facilities at FAPH. The Proposed Action is needed because the current ECS is geographically separated from the training area at FAPH. Units supported by the ECS at Fort Pickett come from Richmond, Fort Lee, and FAPH to retrieve equipment and then travel to FAPH to conduct training exercises. After completing the training exercises, units must return the equipment to Fort Pickett. Travel time needed to retrieve and return the equipment takes away from unit training hours. In addition, the ECS at Fort Pickett is contained in World War II-era wooden buildings, which are in constant need of repair, are not energy efficient, are overcrowded, and are not properly configured for this purpose. Without construction of the ECS at FAPH, units would continue to use training hours to retrieve and return equipment and to work in substandard and crowded facilities.

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Under the Preferred Alternative, the USAR is constructing and will operate the new ECS on approximately 41 acres of land (Project Area) northwest of the intersection of Shackleford Road and A.P. Hill Drive. The Project Area is wooded with a tank trail, the Tator Trail, bisecting the

parcel on a north/south line, and a concrete-vaulted latrine along the tank trail. The concrete latrine building is being demolished as part of the Preferred Alternative. No other structures are present within the Project Area. The entrance to the new ECS would be from Shackleford Road. Stormwater management features would be constructed within the Project Area. Lighting would meet the FAPH dark skies technologies' requirements to prevent light pollution at night. The procedures in the FAPH Environmental Handbook, which outline personnel responsibilities, policies and procedures, and guidance for managing environmental resources at FAPH, will be followed during construction and operation of the new ECS.

No Action Alternative

Under the No Action Alternative, new facilities would not be constructed. If the No Action Alternative were to be implemented, the USAR would continue to provide inadequate facilities to train the USAR units, and training hours would continue to be wasted retrieving and returning military equipment to and from Fort Pickett. This would negatively affect training and operations, resulting in a reduced ability to achieve the USAR mission, which could compromise readiness and security. As a result, the No Action Alternative does not fulfill the Proposed Action's purpose and need. It is included in this analysis as a baseline against which the impacts of the other alternatives can be compared.

Summary of Environmental Consequences and Best Management Practices

This Amended EA contains a comprehensive evaluation of the existing conditions and environmental consequences of implementing the Preferred Alternative and the No Action Alternative, as required by NEPA. Table ES-1 summarizes the impacts of the Preferred Alternative and No Action Alternative. An explanation of the impact terminology used in Table ES-1 is provided in Section 3.

Table ES-1. Summary of Environmental Impacts for the Preferred Alternative and No Action Alternative

Resource	Preferred Alternative Degree of Impact			No Action Alternative Degree of Impact			Section of the Amended EA where Details Are Discussed
	Significant[a]	Insignificant[b]	No Impact	Significant[a]	Insignificant[b]	No Impact	
Land Use			X			X	Section 3.2.1
Geology			X			X	Section 3.2.2
Farmland Soils			X			X	Section 3.2.3
Floodplains			X			X	Section 3.2.4
Federally Threatened and Endangered Species			X			X	Section 3.2.5
State-Listed Threatened and Endangered Species			X			X	Section 3.2.6

Resource	Preferred Alternative Degree of Impact			No Action Alternative Degree of Impact			Section of the Amended EA where Details Are Discussed
	Significant[a]	Insignificant[b]	No Impact	Significant[a]	Insignificant[b]	No Impact	
Cultural Resources			X			X	Section 3.2.7
Noise		X[c]				X	Section 3.2.8
Visual Resources		X				X	Section 3.2.9
Socioeconomics		X				X	Section 3.2.10
Environmental Justice			X			X	Section 3.2.11
Protection of Children			X			X	Section 3.2.12
Soils and Topography		X[c]				X	Section 3.3.1
Surface Water and Groundwater Resources		X[c]				X	Section 3.3.2
Biological Resources		X[c]				X	Section 3.3.3
Air Quality		X			X		Section 3.3.4
Utilities		X				X	Section 3.3.5
Hazardous Substances		X				X	Section 3.3.6
Transportation and Traffic		X			X		Section 3.3.7

a Significant – Action results in impacts that exceed the threshold levels described in detail for each resources in Section 3.3.

b Insignificant – Action results in impacts that do not exceed the threshold levels described in detail for each resources in Section 3.3.

c Insignificant with mitigation/conservation measures as described in the list that follows.

The following best management practices (BMPs) were implemented under the Preferred Alternative as outlined in the 2017 Final EA and will continue until construction is complete:

- The procedures in the FAPH Environmental Handbook, which outline personnel responsibilities, policies and procedures, and guidance for managing environmental resources at FAPH, will be followed during construction and operation of the new ECS.
- Erosion and sediment controls and stormwater management facilities will be installed in accordance with the Virginia Department of Environmental Quality's (VDEQ's) approved erosion and sediment control plan (ESCP), stormwater management plan, and the stormwater pollution prevention plan.
- Vegetation will not be cleared during the migratory bird nesting season (April 15 through July 1) without conducting a preconstruction survey to determine whether nesting birds are present. If nesting migratory birds are found during the preconstruction survey, then those locations within the Project Area containing nesting birds would not be disturbed or cleared until the young have naturally vacated the nest. Through coordination with the U.S. Fish and Wildlife Service, a buffer would be established around each nest to minimize the potential for nest abandonment resulting from nearby construction activity. Areas within this buffer would not be cleared.
- Contractors will maintain construction equipment in accordance with manufacturers' specifications to keep unnecessary noise impacts to a minimum.
- Maintenance and refueling of construction equipment would likely occur on the site. A spill prevention, control, and countermeasures plan will be in place, per FAPH

Regulation 200-2.
- Dust control measures will be in place during construction. These control measures could include the application of water to areas of bare soil to reduce dust and particles in the air.
- The site design will incorporate Energy Independence and Security Act Section 438 stormwater compliance and Leadership in Energy and Environmental Design site development and stormwater requirements. Strategies may include green infrastructure and low-impact development practices.
- An ESCP, stormwater management plan, and a stormwater pollution prevention plan will be prepared in accordance with the VDEQ regulations. The appropriate stormwater permits will be obtained.

In addition to the BMPs implemented under the Preferred Alternative as outlined in the 2017 Final EA, Fort A.P. Hill will perform all project activities in accordance with Virginia Department of Environmental Quality's recommendations provided in the Environmental Impacts and Mitigation section of their April 30, 2020 comment letter included in Appendix B.

Public Involvement

The NEPA process is designed to inform the public of the potential environmental consequences of the Proposed Action and involve them in the federal decision-making process. FAPH recognizes public involvement, and intergovernmental coordination and consultation, as essential elements in developing an EA. Formal notification and opportunities for public participation, as well as informal coordination with government agencies and planners, are incorporated into the EA process.

Agencies, organizations, and members of the public with a potential interest in the Proposed Action were invited to participate in the decision-making process. Early coordination was conducted with multiple agencies and groups.

The early coordination letters, as well as the responses received, are provided in Appendix A. Comments received during the scoping period were considered in the development of the Draft Amended EA.

The Draft Amended EA and Draft FNSI were made available to the public for a 30-day comment period on the Internet at https://home.army.mil/aphill/index.php/my-fort/all services/environmental/national-environmental-policy-act. The public notice was published in the *Freelance Star* newspaper. A copy of the affidavit of publication is provided in Appendix B.

Comments were received from the Virginia Department of Environmental Quality and Virginia Department of Historic Resources. Comments received did not warrant changes to the EA. No comments from the public were received. FAPH will sign the FNSI and proceed with implementing the Preferred Alternative.

Conclusions/Recommendation

Based on the findings of this Amended EA, there would be no significant impact on environmental resources, resulting from the Preferred Alternative. A Final FNSI has been prepared to accompany this Final Amended EA, which concludes that preparation of an environmental impact statement is not required for this Proposed Action.

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Introduction

This Amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia* was prepared for Fort A.P. Hill (FAPH) Directorate of Public Works and the U.S. Army Corps of Engineers (USACE) to evaluate the potential environmental consequences associated with the change in the equipment concentration site (ECS) construction footprint at FAPH, in Caroline County, Virginia (Figure 1-1 and Figure 1-2). A Final Environmental Assessment (EA) was prepared and a finding of no significant impact (FNSI) was signed on March 5, 2017, and these determined that there would be no significant impact resulting from the Preferred Alternative. USAR began constructing the ECS at FAPH. Construction is approximately 70 percent complete. However, during the final design process and after construction started FAPH identified that the project shifted to the east onto an approximately 10-acre parcel that was not covered under the EA. Although the originally proposed footprint of the new ECS remains the same, the location of the ECS has shifted to include the newly identified 10-acre parcel. Therefore, this Amendment to the EA (Amended EA) was prepared to include the additional 10-acre parcel.

This Amended EA was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), Section 102(2)(C); the Council on Environmental Quality's (CEQ's) regulations for implementing the procedural provisions of NEPA; *Code of Federal Regulations* (CFR) Title 40 Parts 1500 through 1508 (CEQ 1978); and "Environmental Analysis of Army Actions," 32 CFR 651. The purpose of this Amended EA is to determine if the Proposed Alternative would result in significant impacts on the environment.

1.1 Background

The USAR's mission is to provide trained, equipped, and ready Soldiers, Leaders, and Units to meet America's requirements at home and abroad. The 99th Readiness Division has an ECS at Fort Pickett, Virginia. Units that use the Fort Pickett ECS currently come from Richmond, Fort Lee, and FAPH to retrieve military equipment from the ECS and then must travel to FAPH, approximately 40 miles, to conduct training exercises. At the completion of the training exercises, units must return the military equipment to the Fort Pickett ECS. Travel hours needed to retrieve and return the equipment take away from unit training hours. In addition, the ECS facilities at Fort Pickett are in World War II-era wooden buildings, which are in constant need of repair, are not energy efficient, are overcrowded, and are not properly configured for this purpose. Therefore, the USAR 99th Readiness Division is constructing a new ECS at FAPH to reduce travel time and to provide up-to-date and adequate facilities.

1.2 Description of the Proposed Action

Details of the Proposed Action in this Amended EA remain unchanged from the 2017 Final EA, are incorporated herein by reference (FAPH 2017), and are summarized below.

The Proposed Action consists of construction and operation of an ECS at FAPH, Virginia. The ECS would employ approximately 41 full-time civilian employees during the week. Construction is approximately 70 percent complete, and operation of the facility is anticipated to start after construction is completed.

Figure 1-1. Regional Map

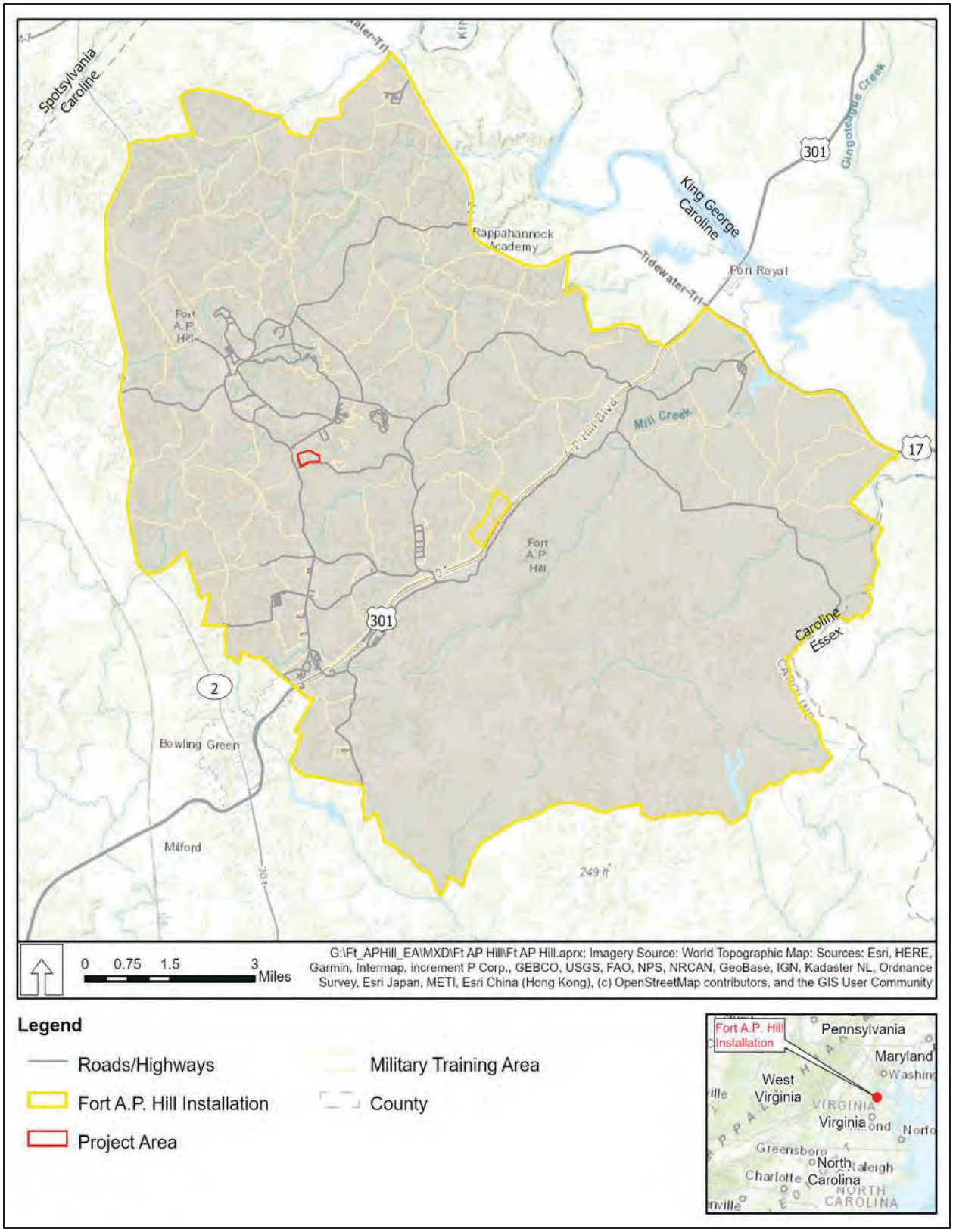

Figure 1-2. Project Vicinity

Once completed, the ECS will include a 27,443-square-foot tactical equipment maintenance facility (TEMF), a 55,000- square-foot general purpose warehouse, a bilevel equipment loading ramp, and parking areas for military equipment and privately owned vehicles. The Proposed Action also includes construction of stormwater management features. The TEMF includes five drive-through work bays, administrative offices, locker rooms, toilets and showers, a classroom and break area, library, tool and parts room, welding shop, tire changing area, arms vault, and maintenance areas for in and out processing of military equipment. The warehouse includes space to store large items that need a climate-controlled environment. The design will comply with the Leadership in Energy and Environmental Design (LEED) Silver standard, feature low-impact development, and consider renewable energy initiatives.

Additional construction activities consist of paving, fencing, making general site improvements, and extending utilities to serve the new facilities. Some grading and leveling of land is required on site. Disturbed areas that are not within the footprint of the proposed buildings or parking areas would be landscaped and used to meet security setback requirements. Physical security measures or antiterrorism/force protection measures incorporated into the design include setbacks from roads, parking areas, and vehicle unloading areas. Buildings would comply with the Americans with Disabilities Act.

1.3 Purpose and Need

The purpose of the Proposed Action is to co-locate equipment storage and training facilities at FAPH. The Proposed Action is needed because the current ECS is geographically separated from the training area at FAPH. Units supported by the ECS at Fort Pickett come from Richmond, Fort Lee, and FAPH to retrieve equipment and then travel to FAPH to conduct training exercises. After completing the training exercises, units must return the equipment to Fort Pickett. Travel time needed to retrieve and return the equipment takes away from unit training hours. In addition, the ECS at Fort Pickett is contained in World War II-era wooden buildings, which are in constant need of repair, are not energy efficient, are overcrowded, and are not properly configured for this purpose. Without construction of the ECS at FAPH, units would continue to use training hours to retrieve and return equipment and to work in substandard and crowded facilities.

1.4 Public Involvement

The NEPA process is designed to inform the public of the potential environmental consequences of the Proposed Action and involve them in the federal decision-making process. FAPH recognizes public involvement, and intergovernmental coordination and consultation, as essential elements in developing an EA. Formal notification and opportunities for public participation, as well as informal coordination with government agencies and planners, are incorporated into the EA process.

Agencies, organizations, and members of the public with a potential interest in the Proposed Action were invited to participate in the decision-making process. The early coordination letters are provided in Appendix A. Comments received during the scoping period were considered in the development of the Draft Amended EA.

The Draft Amended EA and Draft FNSI were made available to the public for a 30-day comment period on the Internet at https://home.army.mil/aphill/index.php/my-fort/all

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Description of the Proposed Action Alternatives

2.1 Overview

The USAR is constructing and will operate an ECS at FAPH, Virginia. Two alternatives were considered in this Amended EA: (1) Preferred Alternative and (2) No Action Alternative. The alternatives are summarized below.

2.2 Alternatives

A key principle of NEPA is that agencies give consideration to a range of alternatives for a proposed action. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be affordable, capable of implementation, and satisfactory with respect to meeting the purpose of and need for the action. The following subsections identify alternatives considered and indicates whether the alternatives are reasonable and, therefore, subject to detailed evaluation in this Amended EA.

2.2.1 Alternatives Considered

2.2.3.1 Preferred Alternative

Under the Preferred Alternative, the USAR is constructing and will operate the new ECS on approximately 41 acres of land northwest of the intersection of Shackleford Road and A.P. Hill Drive (Figure 2-1). The Project Area is wooded with a tank trail, the Tator Trail, bisecting the parcel on a north/south line, and a concrete-vaulted latrine along the tank trail (Figure 2-1). The concrete latrine building is being demolished as part of the Preferred Alternative. No other structures are present within the Project Area. The entrance to the new ECS would be from Shackleford Road. Stormwater management features would be constructed within the Project Area. Lighting would meet the FAPH dark skies technologies' requirements to prevent light pollution at night. The procedures in the FAPH Environmental Handbook, which outline personnel responsibilities, policies and procedures, and guidance for managing environmental resources at FAPH, will be followed during construction and operation of the new ECS.

2.2.3.2 No Action Alternative

Under the No Action Alternative, new facilities would not be constructed. If the No Action Alternative were to be implemented, the USAR would continue to provide inadequate facilities to train the USAR units, and training hours would continue to be wasted retrieving and returning military equipment to and from Fort Pickett. This would negatively affect training and operations, resulting in a reduced ability to achieve the USAR mission, which could compromise readiness and security. As a result, the No Action Alternative does not fulfill the Proposed Action's purpose and need. It is included in this analysis as a baseline against which the impacts of the other alternatives can be compared.

Figure 2-1. Original Proposed ECS Footprint and Additional 10-Acre Shifted Footprint Analyzed in This Amended EA

Existing Environment, Environmental Consequences, and Mitigation

Information gathered from site visits, interviews, existing documentation, and correspondence with federal, state, and local agencies, and adjacent property owners was used to characterize the existing environment. This section identifies the potential environmental consequences of the Preferred Alternative and the No Action Alternative on land use, geology, soils and topography, water resources, air quality, natural and biological resources, cultural resources, noise levels, visual resources, transportation and traffic, utility infrastructure, hazardous materials, public services, socioeconomics, and environmental justice.

Three categories of potential environmental consequences (impacts or effects) were evaluated: direct, indirect, and cumulative. A direct impact is the result of the Proposed Action and occurs at the same time and place. Indirect impacts are caused by the Proposed Action and "are later in time or farther removed in distance, but are still reasonably foreseeable" (40 CFR 1508). Cumulative effects are the results of incremental impacts of the Proposed Action, when added to other past, present, and reasonably foreseeable future actions, regardless of which agency, person, or private entity undertakes such actions.

In the following sections, the duration of each impact is described either as short term, such as construction-related impacts, or long term, such as impacts related to the operation of the proposed ECS. Types of impacts can be beneficial or adverse. Beneficial impacts improve the resource/issue analyzed. Adverse impacts negatively affect the resource/issue analyzed. The intensity of a potential impact refers to its severity and takes into account: the level of controversy associated with impacts on human health or the environment; whether the action establishes a precedent for further actions with significant effects on human health or the environment; the level of uncertainty about projected impacts; and the extent to which the action threatens to violate federal, state, or local environmental protection laws or constrain future activities. Potential beneficial impacts are discussed separately from potential adverse impacts. The thresholds of change for the intensity of impacts are defined as follows:

- Negligible: When the impact is localized and not measureable at the lowest level of detection
- Minor: When the impact is localized and slight, but detectable
- Moderate: When the impact is readily apparent and appreciable
- Major: When the impact is severely or significantly disruptive to current conditions

Intensities that are classified as negligible, minor, or moderate are considered to be insignificant impacts in this analysis. Significant impacts are those categorized as "major." Measures that would be implemented to avoid or minimize potential impacts on the environment, including those that would otherwise be significant, are also presented.

3.1 Cumulative Effects

This section presents the recent, present, and foreseeable future projects that were considered during the assessment of cumulative effects of each alternative. Cumulative effects can result from individually insignificant, but potentially collectively significant, actions taking place over a period of time. Among the principles of cumulative effects analysis discussed in CEQ's guide *Considering Cumulative Effects under the National Environmental Policy Act* (CEQ 1997), is the statement: "…for cumulative effects analysis to help the decision maker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully."

The potential for cumulative effects to the environment from the Preferred Alternative were evaluated by reviewing historical aerial photographs to identify recent projects and reviewing ongoing and planned projects in the vicinity of the Project Area that may have been completed since publication of the 2017 Final EA and FNSI (FAPH 2017) and that could affect the same environmental resources as the Preferred Alternative.

Projects considered included construction projects that are underway or are programmed to occur in the near future. A review of Google Earth aerial images taken between 2009 and 2019 indicated that a facility was constructed approximately 1 mile east of the Project Area along Lee Drive between 2009 and 2011 (Google Earth 2019). Several forestry projects have been completed or are planned in the vicinity of the Project Area (Brown 2019, pers. comm.). Approximately 310 acres of woods would be thinned or cleared in several sections of woods around the Project Area (Brown 2016a, pers. comm.). In the spring of 2018, prescribed burns were completed in areas north and west of the Project Area. There are no additional planned prescribed burns in 2019 or 2020 in the immediate vicinity of the Project Area (Brown 2016b, pers. comm.).

3.2 Resources Eliminated from Further Consideration

Analyses of environmental impacts in an EA typically address numerous resource areas that may be affected by implementing the proposed action. In the Final EA (FAPH 2017), several resources were examined and determined not to warrant further consideration because of their lack of relevance to the alternatives. This section describes the resources that were not considered further and provides the rationale for this determination in this Amended EA.

3.2.1 Land Use

The Project Area is located on FAPH. It is currently used for military maneuvers and training. Construction is approximately 70 percent complete at this time. After the ECS is fully constructed, the Project Area would be used to support military land uses, including maneuvers and training. Therefore, implementation of the Preferred Alternative would not result in adverse impacts on land use at FAPH. This resource is not considered further.

3.2.2 Geology

Construction and operation of the ECS at Project Area would not substantially alter or damage a unique or recognized geologic feature; adversely affect geologic conditions or processes; or expose people or property to geologic hazards that could result in injury or loss of use.

Therefore, there will be no impacts on geology, and it is not considered further in this Amended EA.

3.2.3 Farmland Soils

The Farmland Protection Policy Act of 1990 requires federal agencies to identify and take into account the adverse effects of their actions on the preservation of farmland. There would be no impacts on farmland soils under the Preferred Alternative because the Project Area, inclusive of the additional 10-acre parcel, is on FAPH which is designated as a military installation. Therefore, a Farmland Conversion Impact Rating Form (AD-1006 Form) is not required, and the soils need not be given further consideration for protection under the Farmland Protection Policy Act of 1990. Farmland soils are not considered further in this Amended EA.

3.2.4 Floodplains

Federal actions in floodplains are regulated by Executive Order (EO) 11988, Floodplain Management, and EO 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, which define the floodplain as "the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands." According to EO 13690, the floodplain shall be established using several methods including the "area of flooding by the 0.2 percent annual chance flood," also considered the 500-year floodplain. A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map numbers 51033C0250C and 51033C0100C indicated that the Project Area is not within a 500-year floodplain (FEMA 2009a and 2009b). Therefore, there would be no impacts on floodplains and they are not considered further in this EA.

3.2.5 Federally Threatened or Endangered Species

Four federally listed species and one candidate species could occur within the Project Area based on known occurrences of these species elsewhere on FAPH (FAPH 2016; U.S. Fish and Wildlife Service 2016). Table 3-1 presents a list of these species.

Table 3-1. Federally Listed and Candidate Plants and Animals That Could Occur within the Project Area

Scientific Name	Common Name	Federal Status
Helonias bullata	Swamp pink	Threatened
Isotria medeoloides	Small whorled pogonia	Threatened
Myotis sodalis	Indiana bat	Endangered
Myotis septentrionalis	Northern long-eared bat	Threatened
Stygobromus kenki	Kenk's amphipod	Candidate

As part of the 2017 Final EA (FAPH 2017), CH2M conducted field surveys on and surrounding the Project Area to determine the presence or absence of federally listed plants that could occur. Field surveys for plants were conducted within the Project Area and in the areas immediately surrounding the Project Area, including the additional 10-acre parcel being analyzed in this Amended EA. Habitat for the swamp pink was not present within the Project Area; however, the swamp pink is known to occur in the vicinity of the Project Area. The

distance between the offsite swamp pink plants and established riparian buffers and the location of the Project Area would prevent the Preferred Alternative from impacting the offsite swamp pink. Habitat for the small whorled pogonia was also present within the Project Area. However, neither of these two plants species were observed within or adjacent to the Project Area (CH2M 2016a). A presence/probably absence survey for Indiana bats and northern long-eared bats was completed on June 9 and 10, 2016. Negative results of the acoustic survey suggest that Indiana and northern long-eared bats are not likely using the Project Area during the summer months (Copperhead Environmental Consulting 2016). Kenk's amphipod is a groundwater-dwelling amphipod that surfaces in seeps when groundwater rises and discharges. There are no groundwater seeps or wetlands within the Project Area, and groundwater and wetlands would not be impacted by the Preferred Alternative. There are no known federally listed threatened or endangered plants or animals within the Project Area. Therefore, these resources are not considered further in this Amended EA.

3.2.6 State-Listed Threatened and Endangered Species

Two state-listed plant species and two state-listed bats could occur within the Project Area based on known occurrences of these species elsewhere on FAPH. Table 3-2 presents a list of these species.

Table 3-2. State Listed Plants and Animals That Could Occur within the Project Area

Scientific Name	Common Name	State Status
Juncus caesariensis	New Jersey rush	Threatened
Panax quinquefolius	Ginseng	Threatened
Myotis lucifugus	Little brown bat	Endangered
Perimyotis subflavus	Tri-colored bat	Endangered

CH2M conducted field surveys within the Project Area and in the areas immediately surrounding the Project Area, including the additional 10-acre parcel being analyzed in this Amended EA, in support of the 2017 Final EA (FAPH 2017), to determine the presence or absence of the two state-listed plants. Habitat for the New Jersey rush was not present within the Project Area. Habitat for the ginseng was present within the Project Area. These two plant species were not observed within or adjacent to the Project Area (CH2M 2016a). There are no known state-listed plant species within the Project Area. Little brown bats were not detected within the Project Area during acoustic surveys conducted on June 9 and 10, 2016. Tri-colored bats were detected within the Project Area during acoustic surveys conducted on June 9 and 10, 2016. However, state conservation measures apply to known maternity roost trees and winter hibernacula, which do not occur within the Project Area. Therefore, the Preferred Alternative is unlikely to impact tri-colored bats. So, this resource is not considered further in this Amended EA.

3.2.7 Cultural Resources

A cultural resources survey for the Project Area and areas immediately surrounding the Project Area, including the additional 10-acre parcel being analyzed in this Amended EA, have been completed (Southside Historical Sites 1979; VCU 1991; Gray and Pape 2016; FAPH 2008 and 2017). Surveys consisted of a systematic pedestrian survey and shovel testing. The Project Area has experienced significant ground disturbance from mid- to late twentieth-century military

training activities. Neither the pedestrian survey nor the shovel testing resulted in documentation of archaeological resources. The previous surveys did not identify any aboveground architectural or historical resources within the Project Area. No further work is recommended for the Project Area. Therefore, this resource is not considered further in this Amended EA.

3.2.8 Noise

There are no noise-sensitive receptors in the vicinity of the Project Area. The nearest noise-sensitive receptors are military residences located on FAPH, approximately 2.7 miles south of the Project Area. Therefore, there would be no impacts on noise-sensitive receptors, and this resource is not considered further in this Amended EA.

3.2.9 Visual Resources

The Project Area is a wooded parcel, consisting of a pine-oak forest. Views from the parcel include woods to the north and the east; Shackleford Road and woods to the south; woods, a pond, and A.P. Hill Drive to the west; and a small facility to the northwest. After construction, views from Shackleford Road to the north would change from woods to a developed area. This change would not be significant because the remainder of the ECS would be surrounded by woods, and the new development would be consistent with the installation development plan and the appearance of other installation buildings. Views from outside FAPH would not change. Therefore, this resource is not considered further in this Amended EA.

3.2.10 Socioeconomics

Implementation of the Preferred Alternative would have minor, short-term, direct, beneficial impacts on socioeconomics during construction of the ECS. Impacts would be minor because the economic benefit of the construction jobs are small in relation to the economic activity in the area around FAPH. The majority of the civilian employees who will be supporting the ECS already live in the area, and the units that the ECS supports are already training at FAPH. No new permanent jobs would be created. Therefore; this resource is not considered further in this Amended EA.

3.2.11 Environmental Justice

Implementation of the Preferred Alternative would not result in disproportionately adverse impacts on environmental justice populations because implementation of the Preferred Alternative would not result in housing relocations, changes in employment opportunities, significant health or safety hazards, significant increase in air emissions, significant noise impacts, or a significant increase in traffic. These potential impacts are discussed in more detail in Sections 3.3.4 (Air Quality), 3.3.6 (Hazardous Materials), 3.2.8 (Noise), and 3.3.7 (Transportation and Traffic). Therefore, the Preferred Alternative would result in no impacts on minority and low-income populations. This resource is not considered further in this Amended EA.

3.2.12 Protection of Children

Implementation of the Preferred Alternative would not result in environmental health or safety risks that may affect children. There would be no families or resident populations living at the ECS; therefore, no dependent children under the age of 18 would reside on the site. Access to construction areas would be controlled, thereby limiting unauthorized access by any person, including children. Therefore, this resource is not considered further in this Amended EA.

3.3 Resources Considered in Detail

In the Final EA (FAPH 2017), several resources were considered in detail. This section describes the resources that were considered in detail in the Final EA (FAPH 2017) and carried forward for consideration in this Amended EA.

3.3.1 Soils and Topography

3.3.1.1 Definition of Resource

Soils are the unconsolidated surface materials that form from underlying bedrock or other parent material. Topography refers to an area's surface features, including its shape, height, and depth.

3.3.1.2 Existing Conditions

Soils. There are two soil types identified within the Project Area. Most of the Project Area (98 percent) is underlain by Kempsville-Emporia complex. A small portion along the northeastern and northwestern edges (2 percent) is underlain by Slagle-Kempsville complex (Natural Resources Conservation Service [NRCS] 2016). Kempsville-Emporia complex soils are formed from loamy marine deposits and are well drained. Slagle-Kempsville complex soils are also formed from loamy marine deposits and are moderately well drained (NRCS 2016).

Topography. The Project Area has a topographic divide, a ridge that runs generally north-south through the central portion of the site (XCEL Engineering, Inc. [XCEL] 2016). From this ridge, the ground slopes gently to the northeast and east, and to the west. Elevations within the Project Area range from approximately 196 feet above mean sea level to approximately 300 feet above mean sea level (XCEL 2016).

3.3.1.3 Environmental Consequences

Table 3-3 summarizes the impacts on soils and topography under the Preferred Alternative and the No Action Alternative. The threshold for a significant impact on soils is one that results in (1) a substantial loss of soil or (2) an increased potential for erosion of soils to a level where standard erosion control measures would not prevent the erosion.

The threshold for a significant impact on topography is one that results in (1) a change to the topography that would increase potential for erosion to a level where erosion and control measures would not prevent the erosion and/or (2) a change to the visual landscape that is inconsistent with the existing visual character of the area.

Table 3-3. Summary of Impacts – Soil and Topography

Resource	Preferred Alternative Degree of Impact			No Action Alternative Degree of Impact		
	Significant	Insignificant	No Impact	Significant	Insignificant	No Impact
Soils and Topography		X				X

Preferred Alternative. The Preferred Alternative would have minor, direct, long-term, and permanent adverse impacts on soils as a result of construction of the proposed ECS. The Preferred Alternative would result in soil disturbance and soil compaction during site preparation and grading, construction of building footings, access points, and parking areas. Construction and ground disturbance would take place on approximately 41 acres. Construction of the ECS would not be expected to have significant impacts on soils because the approved erosion and sediment control plan (ESCP) will be implemented and maintained throughout the duration of the construction project.

Impacts on soil from the Preferred Alternative could have cumulative impacts when added to other recently completed, ongoing, or future development and timber projects in the area. Soils would be disturbed during timber harvesting projects; however, best management practices (BMPs) would be employed to prevent disturbed soils from being transported off the site through stormwater. BMPs would follow the guidelines in the *Virginia Department of Forestry's Best Management Practices for Water Quality Technical Manual* (Virginia Department of Forestry 2011).

No Action Alternative. Implementation of the No Action Alternative would not result in a change in current conditions. Therefore, no impacts on soils would occur, and the No Action Alternative would not contribute to cumulative effects.

3.3.2 Surface Water and Groundwater Resources

3.3.2.1 Definition of Resource

Water resources include both surface water and groundwater. Surface water resources include lakes, rivers, streams, and wetlands and can be important to economic, ecological, recreational, and human health resources. Groundwater includes the subsurface hydrologic resources. Groundwater properties are often described in terms of depth to aquifer or water table, water quality, and surrounding geologic composition. FAPH falls within the Chesapeake Bay watershed and, therefore, must comply with the Chesapeake Bay Act.

The USACE and the U.S. Environmental Protection Agency (EPA) define wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are identified and evaluated by three parameters: vegetation, soils, and hydrology. Wetlands generally include marshes, bogs, and similar areas” (33 CFR 328.3[b]). USACE regulates wetlands under Section 404 of the Clean Water Act. In addition, the Department of the Army is directed under EO 11990, Protection of Wetlands, to minimize the destruction, loss, and degradation of wetland environments. EO 11990 also directs the preservation and enhancement of the natural and beneficial values of the wetland environments.

3.3.2.2 Existing Conditions

Surface Water. Caroline County is in Virginia’s Coastal Zone Management Area (Virginia Department of Environmental Quality [VDEQ] 2016). The Project Area is within the Lower Rappahannock River Watershed (Hydrologic Unit Code 02080104; FAPH 2016). In support of the 2017 Final EA (FAPH 2017), CH2M conducted a wetland delineation within the Project Area and areas adjacent to the Project Area, including the additional 10-acre parcel, on May 23 and 24, 2016. No surface waters or wetlands were identified within the Project Area (CH2M 2016b).

The Project Area is on the topographic divide between the Mill Creek watershed and the Turkey Track Creek watershed. Forested/shrub wetlands associated with a tributary to Mill Creek were identified to the east of the Project Area. Also, a pond and emergent wetlands associated with a tributary to Turkey Track Creek were identified to the west of the Project Area during the wetland delineation. No wetlands were identified within the 10-acre parcel that is being analyzed in this Amended EA (CH2M 2016b).

Portions of Mill Creek are listed as impaired for the aquatic life use because pH values were not in the recommended range; portions of the creek are impaired for recreational use because of the presence of *E. coli* bacteria (FAPH 2016).

Groundwater. Under natural, undisturbed conditions, shallow groundwater flow generally follows the topography of the land surface. On this basis, the topography suggests that groundwater movement across the western portions of the Project Area is toward the pond located along the western boundary, while groundwater flow in the eastern portions of the Project Area is expected to flow east and northeast, in the direction of a tributary of Mill Creek (XCEL 2016). Groundwater flow is affected by seasonal variations, nearby pumping wells, and/or other hydrologic influences; therefore, the presumed flow may not coincide with the actual flow in the subject area. Shallow groundwater at Project Area is expected to be encountered at approximately 5 to 20 feet below ground surface (XCEL 2016).

3.3.2.3 Environmental Consequences

Table 3-4 summarizes the impacts on surface water and groundwater resources under the Preferred Alternative and the No Action Alternative. The threshold level of significance for surface water, including wetlands, are a violation of state water quality criteria, a violation of federal or state discharge permits, an unpermitted placement of structures or other fill material within Clean Water Act-regulated waters, or implementation of a project that is inconsistent with Virginia's coastal zone management policies.

The threshold level of significance for groundwater impacts are those that result in a release of contamination that creates concentrations that exceed the VDEQ's standards or an increase in water demand that exceeds aquifer capacity.

Table 3-4. Summary of Impacts – Surface Water and Groundwater Resources

Resource	Preferred Alternative Degree of Impact			No Action Alternative Degree of Impact		
	Significant	Insignificant	No Impact	Significant	Insignificant	No Impact
Surface Water and Groundwater Resources		X				X

Preferred Alternative. The Preferred Alternative would not result in direct impacts on surface waters or wetlands because none are present within the Project Area. The Preferred Alternative could result in short-term, minor, adverse, indirect impacts on surface water quality during construction. Impacts on surface water quality could occur when soil particles in disturbed soils

are transported through stormwater to receiving waters. Before construction began at the Project Area, the contractor developed and submitted the plans to VDEQ for review and approval. VDEQ issued a Virginia Stormwater Management Program (VSMP) permit to the contractor. The contractor implemented and will continue to maintain the approved ESCP and stormwater pollution prevention plan for the duration of the project. Toward the end of the construction project's schedule, the stormwater management plan will be implemented.

The Preferred Alternative could result in long-term, minor, adverse indirect impacts on surface water quality during operation of the ECS. Impacts on surface water quality could occur because a potential increase in stormwater runoff could result from an increase in impervious surface area. These impacts would be minimal because the USAR would comply with requirements of Section 438 of the Energy Independence and Security Act of 2007 and the National Pollutant Discharge Elimination System (NPDES) to limit the potential impacts from development of the Project Area. Strategies to reduce stormwater runoff could include green infrastructure and low-impact development practices, such as reducing impervious surfaces, using vegetative practices, or providing porous pavements, cisterns, or green roofs. Oil-water separators would be installed in areas where vehicle maintenance or vehicle washing would occur. This facility will be included in FAPH’s Integrated Discharge Prevention and Contingency Plan.

Implementation of the Preferred Alternative would result in a long-term, minor, direct, adverse impact on local groundwater supply because groundwater would be used as a drinking water supply. The proposed ECS would be connected to the existing water distribution system, which is supplied by a groundwater source. A spill prevention, control, and countermeasures plan, as noted above, would be implemented to protect groundwater quality. However, the Preferred Alternative could result in short- term, minor, direct, adverse impacts on groundwater if shallow groundwater is encountered during demolition of the latrine and construction activities. There would be a potential to temporarily cause impacts on groundwater from the suspension of sediments during excavation activities. If groundwater comes in contact with construction equipment and is exposed to oils on the equipment, there is potential for the shallow groundwater to be impacted. Shallow groundwater depths can fluctuate throughout the year, especially during spring when snow is melting and rains are heavy. Excavations deeper than 4 feet would be avoided during these times. If groundwater were to be encountered during construction activities, then activities would stop or, as needed, the water would be pumped out of the excavation area and treated and released following the requirements of the NPDES stormwater construction permit.

The USAR prepared a Consistency Determination under Coastal Zone Management Act Section 307(c)(1) and 15 CFR 930, subpart C (15 CFR 930.39) for the Preferred Alternative in 2017. FAPH prepared an updated Consistency Determination for this Amended EA to include the additional 10-acre parcel (provided in Appendix C). The Preferred Alternative would result in negligible impacts on the coastal resources of Virginia. Based on the information, data, and analysis included in the Coastal Zone Management Act Consistency Determination, the FAPH finds that the proposed construction and operation of the new ECS is consistent to the maximum extent practicable with the enforcement policies of the Virginia Coastal Zone Management Program (see Appendix C). The Consistency Determination was submitted to the VDEQ on April 9, 2020. Approval by VDEQ was received on 12 May 2020 (Appendix C).

Indirect impacts on surface water and direct and indirect impacts groundwater from the Preferred Alternative could add cumulatively to similar impacts from recently completed, ongoing, or future development and timber projects in the area. Increased development would add to the potential for increased stormwater runoff and related sedimentation of surrounding surface water. Increased development would also correspondingly increase the potential for spills to affect receiving surface water and shallow groundwater. Timber harvest activities could increase potential for soils to be transported into receiving waters from stormwater; however, BMPs would be employed to prevent this from happening. BMPs would follow the guidelines in the *Virginia Department of Forestry's Best Management Practices for Water Quality Technical Manual* (Virginia Department of Forestry 2011).

No Action Alternative. The No Action Alternative would not result in a change in current conditions. Therefore, no impacts on water resources would occur and the No Action Alternative would not contribute to cumulative effects.

3.3.3 Biological Resources

3.3.3.1 Definition of Resource

Biological resources consist of plants and animals, and their habitats. These resources provide aesthetic, recreational, and socioeconomic benefits to society. This section describes plant and animal species that occur or are likely to occur in the Project Area. (Federally and state-listed species are discussed in Sections 3.2.5 and 3.2.6.)

Two laws are applicable to the analysis of biological resources for the project:

- The Migratory Bird Treaty Act (MBTA) of 1918, as amended, implements various treaties and conventions between the United States and Canada, Japan, Mexico, and Russia for the protection of migratory birds. Under the MBTA, taking, killing, or possessing listed birds is unlawful, unless permitted by regulation.
- The Bald and Golden Eagle Protection Act of 1940 provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds.

3.3.3.2 Existing Conditions

Vegetation. The Project Area is a homogenous mature oak/pine forest. Dominant tree species within the Project Area include southern red oak (*Quercus falcata*), blackjack oak (*Quercus marilandica*), willow oak (*Quercus phellos*), loblolly pine (*Pinus taeda*), Virginia pine (*Pinus virginiana*), and tulip tree (*Liriodendron tulipifera*). Shrubs include Japanese honeysuckle (*Lonicera japonica*), hillside blueberry (*Vaccinium pallidum*), and southern dwarf huckleberry (*Gaylussacia dumosa*). Vines include poison ivy (*Toxicodendron radicans*), common greenbriar (*Smilax rotundifolia*), whiteleaf greenbriar (*Smilax glauca*), trumpet creeper (*Campsis radicans*), and Virginia creeper (*Parthenocissus quinquefolia*).

Wildlife. The Project Area includes forested habitat that could support a variety of wildlife. Animals observed by visual identification, listening, observation of tracks and scat, mapped information, and acoustic surveys include eastern hognose snake (*Heterodon platirhinos*), eastern ratsnake (*Pantherophis alleghaniensis*), white-tailed deer (*Odocoileus virginianus*), pileated woodpecker (*Dryocopus pileatus*), fox, red bat (*Lasiurus borealis*), big brown bats (*Eptesicus fuscus*), evening bats (*Nycticeius humeralis*), turtles, frogs, lizards, and a variety of

birds and insects. The Project Area provides forested areas that are suitable nesting and foraging habitat for birds regulated by the MBTA. FAPH maintains records of bald eagle nests that occur on base. None are known to occur within the Project Area, and none were observed during the May and June 2016 surveys at the site.

3.3.3.3 Environmental Consequences

Table 3-5 summarizes the impacts on biological resources under the Preferred Alternative and the No Action Alternative. The threshold level of significance for vegetation and wildlife is defined by impacts that result in (1) a loss or impairment of sensitive or other native habitats, including wetlands or riparian corridors, such that the loss or impairment of habitat negatively affects the regional population of a species; (2) the injury or loss of individuals negatively affects the regional population of a species; (3) the take of birds in violation of the MBTA that could result in an enforcement action against the USAR; or (4) the introduction or spread of invasive or otherwise undesirable nonnative species.

Table 3-5. Summary of Impacts – Biological Resources

Resource	Preferred Alternative Degree of Impact			No Action Alternative Degree of Impact		
	Significant	Insignificant	No Impact	Significant	Insignificant	No Impact
Biological Resources		X				X

Preferred Alternative

Vegetation

The Preferred Alternative would result in minor, direct, long-term, adverse impacts on vegetation within the Project Area. The entire 41-acre entire Project Area would be converted from wooded and grassy areas to developed and/or landscaped areas. Impacts from the loss of 41 acres of forest habitat would not be significant when compared to the existing 65,000 acres of forests on FAPH (FAPH 2016), because the loss of the wooded area would not negatively affect the regional population of plant species. Noxious weeds and invasive plants would be controlled through landscape maintenance. FAPH controls pest problems through the implementation of an integrated pest management plan (FAPH 2016).

No Action Alternative

The No Action Alternative would not result in a change in current conditions. Therefore, no impacts on biological resources would occur, and the No Action Alternative would not contribute to cumulative effects to biological resources.

3.3.4 Air Quality

3.3.4.1 Definition of Resource

Under the authority of the Clean Air Act (CAA), the EPA has established nationwide air quality standards to protect public health and welfare. These federal standards include National

Ambient Air Quality Standards (NAAQS), which represent the maximum allowable atmospheric concentrations for six criteria pollutants: ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter (which includes respirable particulate matter less than or equal to 10 micrometers in diameter and respirable particulate matter less than or equal to 2.5 micrometers in diameter).

Under the CAA, the country is classified into attainment, nonattainment, and maintenance areas for NAAQS. Any area not meeting the NAAQS is designated as "nonattainment" for the specific pollutant or pollutants, whereas areas meeting the NAAQS are designated as "attainment." Maintenance areas are those areas previously designated as "nonattainment" and subsequently redesignated to "attainment," subject to development of a maintenance plan.

Under the EPA New Source Review (NSR) program, stationary sources of air pollution are required to have permits before construction of the source begins. NSR prevention of significant deterioration (PSD) approval would be required if the proposed project was either a new source, had the potential to emit 250 tons per year or more of an attainment pollutant, or was an existing major source of emissions, making it a major modification in an attainment area, which would result in a net emissions increase above specified levels. Nonattainment NSR approval would be required if the proposed project was a new stationary source or a major source, making it a major modification in a nonattainment area with potential to emit nonattainment pollutants in excess of the NSR thresholds.

The CAA General Conformity Rule (40 CFR 6, 51, and 93) requires federal agencies to make written conformity determinations for federal actions in or affecting nonattainment or maintenance areas. If the emissions of a criteria pollutant (or its precursors) do not exceed the *de minimis* level, then the federal action has minimal air quality impacts. Therefore, the action is determined to conform for the pollutant under study; no further analysis is necessary.

Under the EPA Mandatory Reporting Rule, facilities that emit 25,000 metric tons or more per year of carbon dioxide equivalent (CO_2e) emissions must submit annual reports to the EPA. The CEQ final guidance establishes an annual total of 25,000 metric tons of carbon dioxide (CO_2) as a screening level for conducting a quantitative and qualitative assessment of greenhouse gas (GHG) emissions in NEPA analysis (CEQ 2016). GHGs are compounds that may contribute to accelerated climate change by altering the thermodynamic properties of the earth's atmosphere. GHGs consist of CO_2, methane, nitrous oxide, hydrofluorocarbons, and perfluorocarbons (EPA 2010).

3.3.4.2 Existing Conditions

The Project Area is in Caroline County, Virginia, which is an attainment area for all federal and state air quality standards (FAPH 2016). The Project Area includes one structure (a concrete block latrine) that is not a source of air emissions. Sources of air emissions in the vicinity of the Project Area primarily consist of fuel combustion emissions from vehicle traffic on the surrounding roadways and fuel combustion emissions from stationary sources of nearby military facilities.

3.3.4.3 Environmental Consequences

Table 3-6 summarizes the impacts on air quality under the Preferred Alternative and the No Action Alternative. The threshold level of significance for air quality is defined as a violation of an ambient air quality standard or regulatory threshold.

Table 3-6. Summary of Impacts – Air Quality

Resource	Preferred Alternative Degree of Impact			No Action Alternative Degree of Impact		
	Significant	Insignificant	No Impact	Significant	Insignificant	No Impact
Air Quality		X			X	

Preferred Alternative

Potential air quality impacts associated with the Preferred Alternative were evaluated based on whether potential emissions would be localized or whether a reasonable potential exists for a violation of an ambient air quality standard or regulatory threshold.

Implementation of the Preferred Alternative would result in minor, direct, short-term, adverse impacts on overall air quality from construction of the new facility. The operation of heavy construction equipment would increase exhaust emissions and generate dust and other construction-related particles in the air during the construction phase. Emissions from construction vehicles are being minimized by requirements in the construction specifications that the contractor keep equipment properly maintained and operating for the duration of construction. Since construction began, the construction contractor has been implementing dust control measures and will continue to do so for the duration of construction. These control measures include the application of water to areas of bare soil to reduce dust and particles in the air.

Implementation of the Preferred Alternative would result in minor, direct, long-term, adverse impacts on overall air quality from stationary source emissions associated with operation of the proposed ECS. Operation of the new facilities would include emissions associated with building operations, such as heating, ventilation, and air conditioning. No other new stationary sources of emissions are anticipated from the Preferred Alternative.

Implementation of the Preferred Alternative would result in minor, direct, long-term, beneficial impacts on overall air quality from mobile source emissions associated with operation of the new ECS. Impacts would be beneficial because units would no longer need to drive to Fort Pickett to pick up the military equipment and then transport it to FAPH and back, reducing emissions from vehicles. In addition, compliance with the LEED Silver standard would reduce utility needs, as compared to the existing World War II-era buildings currently being used at Fort Pickett.

Table 3-7 summarizes the projected total air emissions from the Preferred Alternative from sources associated with the action. A copy of the calculations used to develop these estimates is in Appendix D.

Based on the estimated emissions listed in Table 3-7, the emissions from the Preferred Alternative would be well below regulatory thresholds (shown in Table 3-7). Therefore, the Preferred Alternative would not be subject to PSD or NSR requirements. Because the area is a

NAAQS attainment area, the General Conformity Rule does not apply to the Preferred Alternative. Appendix D contains a General Conformity Record of Non-Applicability for the Preferred Alternative.

The Preferred Alternative would not have a significant impact on GHG emissions because the operational and construction activities proposed at the Project Area are not expected to cause direct emissions of 25,000 metric tons of CO_2e or more per year. The Preferred Alternative would result in a decrease in GHG emissions because of the reduction in vehicle trips. This decrease in emissions would result in net beneficial impacts on climate change.

Implementation of the Preferred Alternative could result in cumulative effects on air quality when combined with other development, timber harvest, and prescribed burn projects in the area. These effects would not be significant because the proposed projects would not increase air pollutants to levels that exceed regulatory thresholds.

Table 3-7. Summary of Proposed Action Emissions*

Project Activities	Projected Annual Emissions (tons per year)						
	SO_2	**NO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**VOCs**	**HAPs**
Operational Sources							
Stationary Sources	0.005	0.85	0.66	0.065	0.065	0.047	0.016
Mobile Sources	0.006	0.6	4.24	0.07	0.033	0.12	0.009
Operational Sources Total	**0.01**	**1.44**	**4.91**	**0.13**	**0.10**	**0.17**	**0.025**
Construction Sources							
Construction Sources Total	**0.013**	**7.03**	**6.11**	**0.58**	**0.46**	**0.61**	**0.21**
PSD Thresholds	250	250	250	250	250	250	25
Nonattainment NSR Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A
General Conformity *de minimis* Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Activities	GHG Emissions (metric tons)			
	CO_2	**CH_4**	**N_2O**	**Total CO_2e**
Operational Sources	1,242	0.023	0.002	1,243
Construction Sources	1,010	0.082	0.012	1,016
GHG Thresholds	**25,000 tons CO_2e**			

* The projected emissions have been estimated using typical equipment for similar construction. Actual specifications of fuel usages, construction equipment, and vehicle mileage have been estimated based on similar projects.

CH_4 = methane; CO = carbon monoxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; HAP = hazardous air pollutant; N/A = not applicable; N_2O = nitrous oxide; NO_x = nitrogen oxide; NSR = New Source Review; $PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers in diameter; PM_{10} = particulate matter less than or equal to 10 micrometers in diameter; PSD = prevention of significant deterioration; SO_2 = sulfur dioxide; VOC = volatile organic compound

No Action Alternative

Implementation of the No Action Alternative would not result in a change in current conditions. Military vehicles would continue to need to travel between Fort Pickett and FAPH. Therefore,

long-term, minor, adverse, direct negative impacts on air quality would continue. The No Action Alternative would contribute to cumulative effects on air quality from vehicle emissions in the region.

3.3.5 Utilities

3.3.5.1 Definition of Resource

Utility infrastructure refers to the system of public works that provides the underlying framework for a community. Utilities include electric, gas, telephone, Internet service, sanitary sewer, and potable water systems.

3.3.5.2 Existing Conditions

Electricity at FAPH is provided by Rappahannock Electric Cooperative. Telephone service is provided by Verizon. Drinking water is provided by groundwater wells on FAPH. Production and distribution of potable water is provided by American Water. Wastewater services are also provided by American Water. Most solid waste on FAPH is taken to the King George County Landfill.

3.3.5.3 Environmental Consequences

Table 3-8 summarizes the impacts on utilities under the Preferred Alternative and the No Action Alternative. The threshold levels of significance for impacts on utilities and infrastructure occur with exceedances of the existing capacities of utilities or infrastructure.

Table 3-8. Summary of Impacts – Utilities

Resource	Preferred Alternative Degree of Impact			No Action Alternative Degree of Impact		
	Significant	Insignificant	No Impact	Significant	Insignificant	No Impact
Utilities		X				X

Preferred Alternative

The Preferred Alternative would have minor, direct, long-term, adverse impacts on utilities at the Project Area. Impacts on utilities would not be significant because energy usage at the maintenance facility and warehouse are not anticipated to exceed existing capacities of local providers. In addition, new facilities would include energy-efficient buildings. In accordance with EO 13693, Planning for Sustainability in the Next Decade, and the U.S. Army's Sustainability Policy, an effort will be made to achieve at least the LEED Silver standard in designing the buildings, landscaping, and other facilities that are part of the Preferred Alternative. Utility connections would be provided in accordance with the requirements of the respective utility companies and local building codes.

Implementation of the Preferred Alternative would result in negligible cumulative effects on utility use, when added to the utility demands of other development in the area.

No Action Alternative

No new construction or development activities are proposed under the No Action Alternative. Therefore, no impacts on utilities would occur. The No Action Alternative would not contribute to cumulative impacts on utility infrastructure.

3.3.6 Hazardous Substances

3.3.6.1 Definition of Resource

This section describes the affected environment associated with hazardous substances used or stored at the considered locations. A “hazardous substance” refers to any item or agent (biological, chemical, or physical) that has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

Issues associated with hazardous substances typically center around waste streams; underground storage tanks; aboveground storage tanks; and the storage, transport, use, and disposal of pesticides, fuels, lubricants, and other industrial substances. When such substances are improperly used, they can threaten the health and well-being of wildlife species, habitats, soil and water systems, and humans.

Radon is considered to be part of the affected environment associated with hazardous substances. The Indoor Radon Abatement Act of 1988 established a long-term goal that indoor air be as free from radon as the ambient air outside buildings. In general, elevated indoor radon gas concentrations may present public health concerns.

3.3.6.2 Existing Conditions

An environmental condition of property (ECP) report was prepared as part of the 2017 Final EA (FAPH 2017) to assess the current environmental conditions at the Project Area (XCEL 2016). The findings of the ECP were based on a visual reconnaissance, interviews with the current property owners and local government employees, and a review of historical information. The area assessed as part of the ECP included the additional 10-acre parcel being analyzed in this Amended EA.

The ECP revealed no evidence of recognized environmental conditions in connection with the Project Area. No underground or aboveground storage tanks, odors, pools of liquids, buried sumps, hazardous substance or petroleum product containers, devices containing polychlorinated biphenyls, pits, ponds, sewage treatment solid waste, wells, or septic systems were observed within the Project Area (XCEL 2016). A vaulted concrete latrine building is located within the Project Area, adjacent to the tank trail.

Caroline County is listed as within Zone 3, where the average predicted indoor radon screening level is anticipated to be less than 2 picocuries per liter, which is below the 4 picocuries per liter action level established by EPA (XCEL 2016).

3.3.6.3 Environmental Consequences

Table 3-9 summarizes the impacts on hazardous substances under the Preferred Alternative and the No Action Alternative. The threshold level of significance for impacts resulting from hazardous substances would include a release of hazardous substances or a violation of local, state, or federal hazardous substances regulations.

Table 3-9. Summary of Impacts – Hazardous Substance

Resource	Preferred Alternative Degree of Impact			No Action Alternative Degree of Impact		
	Significant	Insignificant	No Impact	Significant	Insignificant	No Impact
Hazardous Substances		X				X

Preferred Alternative

Construction of the new ECS is expected to have short-term, minor, direct, adverse impacts on hazardous substances because some petroleum products would be used to maintain construction equipment and stored or disposed of as a result of proposed construction activities. Before construction began at the Project Area, a spill prevention, control, and countermeasures plan was prepared and it will continue to be followed to minimize occurrences of spills and provide procedures for cleaning up spills that may occur, per FAPH Regulation 200-2. In addition, FAPH requires that drip pans be placed under parked tactical vehicles, per Army Training Circular TC 21- 305-11.

Operation of the new ECS is expected to have long-term, minor intensity, direct, adverse impacts on the environment from the use of hazardous substances and the disposal of hazardous waste associated with vehicle maintenance. Hazardous substances would be used and stored at the ECS to support maintenance activities. The hazardous substances typically used in a facility similar to the ECS include solvent-based cleaners, aqueous cleaners/degreasers, oil, hydraulic fluid, gear oil, antifreeze, grease, transmission fluid, and other related materials. Storage of these hazardous materials would be rotational in nature to support maintenance activities occurring at the site. Small amounts of hazardous wastes associated with maintenance activities would likely be generated and managed at the Project Area. Such wastes would be disposed of regularly through a contracted hazardous waste hauler in accordance with applicable federal and state waste management regulations. No long-term storage or onsite disposal of these materials will occur. Staff members will be trained in proper spill prevention and spill handling and containment. Containment and cleanup equipment and materials would be available on the site. Because licensed handlers would remove municipal and hazardous wastes from FAPH and disposed of at appropriate offsite locations, there would be no impacts caused by the generation of hazardous wastes under the Preferred Alternative. The volume of municipal and hazardous wastes generated is not anticipated to place a measurable burden on regional disposal sites. Therefore, there would be no significant adverse impacts from the use of hazardous substances.

The anticipated radon level at the Project Area is not expected to negatively affect human health or the environment because radon levels are anticipated to be below the EPA's established action levels.

Impacts on hazardous materials and disposal of hazardous wastes from the Preferred Alternative could have cumulative impacts when added to other projects planned in the area.

No Action Alternative

No new construction or development activities are proposed under the No Action Alternative. Therefore, no impacts on human health or the environment from hazardous materials are anticipated. The No Action Alternative would not contribute to cumulative impacts on the use of hazardous materials and disposal of hazardous waste.

3.3.7 Transportation and Traffic

3.3.7.1 Definition of Resource

Transportation and traffic resources generally include the roadway and street systems surrounding the affected environment. This section also discusses the movement of vehicles, pedestrian and bicycle traffic, and mass transit.

3.3.7.2 Existing Conditions

The Project Area would be accessed from Shackleford Road on FAPH. Shackleford Road is a two-lane road that runs east/west on FAPH. There are no issues related to traffic volume along Shackleford Road, and there are no sidewalks or designated bike routes along the road.

3.10.7.3 Environmental Consequences

Table 3-10 summarizes the impacts on transportation and traffic under the Preferred Alternative and the No Action Alternative. The threshold level for significant impacts on traffic and transportation would be a permanent disruption in traffic flow on adjacent roadways or other surrounding roads. Factors considered in determining whether a significant traffic-related impact could occur include (1) an increase in vehicle trips that would disrupt or alter local circulation patterns, (2) permanent lane closures or other impediments to traffic, (3) activities that would create potential traffic safety hazards, (4) conflict with pedestrian and bicycle routes or fixed-route transit that would cause safety hazards, and (5) parking demand that exceeds the supply.

Table 3-10. Summary of Impacts – Transportation and Traffic

Resource	Preferred Alternative Degree of Impact			No Action Alternative Degree of Impact		
	Significant	Insignificant	No Impact	Significant	Insignificant	No Impact
Transportation and Traffic		X				X

Preferred Alternative

The Preferred Alternative would result in minor, direct, short-term, adverse traffic impacts during construction of the new ECS as a result of trucks and slower-moving construction equipment entering and leaving the Project Area and FAPH. Construction vehicles typically travel to the Project Area through the FAPH North Gate, along A.P. Hill Drive, to Shackleford Drive. No lane closures or other disruptions to circulation patterns are required for construction, and no activities that would create traffic hazards are anticipated.

Overall, operation of the new ECS at Project Area would result in minor, direct, long-term, adverse traffic impacts at the North Gate and along A.P. Hill Drive. Weekday vehicle trips were estimated using methodologies from the *Traffic Engineering Handbook* (Institute of Transportation Engineers 2008). The average rate of trip generation per employee for a single-tenant office building is 3.62. On weekdays, it was calculated that 149 additional vehicle trips would be generated by the 41 full-time employees.

These impacts would not result in lane closures or other impediments to traffic, new traffic safety hazards would not be created, conflicts with pedestrian and bicycle routes or fixed-route transit that would cause safety hazards would not occur, and parking demand would not exceed supply. Sufficient parking would be provided at the site to accommodate the vehicular needs. Parking spaces for assigned USAR personnel, as well as for assigned military vehicles and equipment, would be provided in the project design. Off-site parking would not be required and would not be constructed under the Preferred Alternative. Vehicle trips by units supported by the ECS that train at FAPH were not calculated, because those trips would not change.

There would be an overall benefit to regional traffic and traffic around Fort Pickett from the reduction in trips to pick up and drop off the military equipment stored there that would be stored at FAPH with the implementation of operations at the ECS.

The Preferred Alternative would result in cumulative impacts on local traffic, when combined with the added traffic generated by the other planned projects in the area. Impacts would not be significant because there would not be a permanent disruption

No Action Alternative

Implementation of the No Action Alternative would not result in a change in current conditions. Therefore, no impacts on traffic and transportation would occur, and the No Action Alternative would not contribute to cumulative effects.

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Conclusions

This Amended EA contains a comprehensive evaluation of the existing conditions and environmental consequences of implementing the Proposed Action's Preferred Alternative and the No Action Alternative, as required by NEPA.

The following BMPs were implemented under the Preferred Alternative as outlined in the 2017 Final EA and will continue until construction is complete:

- The procedures in the FAPH Environmental Handbook, which outline personnel responsibilities, policies and procedures, and guidance for managing environmental resources at FAPH, will be followed during construction and operation of the ECS.
- An ESCP, stormwater management plan, and a stormwater pollution prevention plan will be prepared in accordance with the VDEQ's regulations. The appropriate stormwater permits will be obtained.
- Erosion and sediment controls and stormwater management facilities will be installed in accordance with the VDEQ's approved ESCP, stormwater management plan, and the stormwater pollution prevention plan.
- Vegetation will not be cleared during the migratory bird nesting season (April 15 through July 1) without conducting a preconstruction survey to determine whether nesting birds are present. If nesting migratory birds are found during the preconstruction survey, then those locations within the Project Area containing nesting birds would not be disturbed or cleared until the young have naturally vacated the nest. Through coordination with the U.S. Fish and Wildlife Service, a buffer would be established around each nest to minimize potential for nest abandonment resulting from nearby construction activity. Areas within this buffer would not be cleared.
- Contractors will maintain construction equipment in accordance with manufacturers' specifications to keep unnecessary noise impacts to a minimum.
- Maintenance and refueling of construction equipment would likely occur onsite and a spill prevention, control, and countermeasures plan will be in place, per FAPH Regulation 200-2.
- Dust control measures will be in place during construction. These control measures could include the application of water to areas of bare soil to reduce dust and particles in the air.
- The site design will incorporate Energy Independence and Security Act Section 438 stormwater compliance and LEED site development and stormwater requirements. Strategies may include green infrastructure and low-impact development practices.

In addition to the BMPs implemented under the Preferred Alternative as outlined in the 2017 Final EA, Fort A.P. Hill will perform all project activities in accordance with the VDEQ recommendations provided in the Environmental Impacts and Mitigation section of the April 30, 2020 letter (Appendix B).

Based on the findings of this Amended EA, there would be no significant impacts on environmental resources resulting from the Preferred Alternative. A FNSI has been prepared to accompany this Amended EA, which concludes that preparation of an environmental impact statement is not required for this Proposed Action.

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List of Preparers, Agencies Contacted, and Distribution

5.1 Preparers

Table 5-1 lists the preparers of this Amended EA.

Table 5-1. List of Preparers

Name	Education and Experience	Primary Responsibilities
Maggie Fulton	BS, English, Arizona State University, 1984; 33 years of writing, editing, and formatting experience, including 12 years of technical editing.	Editorial and technical review; quality control/quality assurance of the Amended EA
Carey Lynn Perry	MS, Oceanography and Coastal Sciences, Louisiana State University, 2007; BS, Marine Science—Marine Biology Concentration, Eckerd College, 2005; 14 years of experience in NEPA analysis, environmental permitting, ecological surveys, and agency consultation for federal clients	Project Manager; preparation of the Amended EA and correspondence with federal and state agencies
Eric Webb, PhD	PhD, Oceanography and Coastal Sciences, Louisiana State University, 1997; MS, Morehead State University, 1991; BS, Ohio Dominican University, 1988; 24 years of experience in program management, NEPA analysis, environmental permitting, ecological surveys, and agency consultation for federal clients	Senior technical review; quality control/quality assurance of the Amended EA

5.2 Persons and Agencies Contacted

Agencies and groups that were contacted regarding the project are provided in Appendix A.

5.3 Distribution List

Due to COVID-19-related library closures, no hard copies of the Amended EA/FNSI were distributed. The Amended EA/FNSI were made available to the public on the internet at the FAPH website. Notification letters announcing the availability of the Amended EA/FNSI were distributed via certified mail to agencies and individuals on the FAPH mailing list.

References

Brown, Kristine. FAPH NEPA Planner/Sustainability Coordinator. 2019. Personal communication with Carey Lynn Perry/Vernadero Group Incorporated. October 31.

Brown, Kristine. FAPH NEPA Planner. 2016a. Personal communication with Laura Haught/CH2M. July 12.

Brown, Kristine. FAPH NEPA Planner. 2016b. Personal communication with Laura Haught/CH2M. July 11.

CH2M. 2016a. *Surveys for Federally-Listed Plant Species, Fort A.P. Hill, Virginia*. Fort A.P. Hill, U.S. Army Reserve, 99th Regional Support Command and U.S. Army Corps of Engineers – Louisville District. Draft. July.

CH2M. 2016b. *Wetland Delineation Report, Fort A.P. Hill, Virginia*. Fort A.P. Hill, U.S. Army Reserve, 99th Regional Support Command and U.S. Army Corps of Engineers – Louisville District. Draft. July.

Copperhead Environmental Consulting. 2016. *Draft Indiana Bat and Northern Long-eared Bat Presence/Probable Absence Survey for a Proposed Equipment Concentration Site on Fort A.P. Hill, Caroline County, Virginia.* June 15.

Council on Environmental Quality (CEQ). 1978. *Regulations for Implementing the Procedural Provisions of NEPA.*

Council on Environmental Quality (CEQ). 1997. *Considering Cumulative Effects under the National Environmental Policy Act*.

Council on Environmental Quality (CEQ). 2016. *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*. August 1.

Executive Order (EO) 11988 of May 24, 1977. Floodplain Management. *Federal Register,* Volume 42, Issue 26951.

Executive Order (EO) 11990 of May 24, 1997. Protection of Wetlands. *Federal Register*, Volume 42, Issue 26961.

Executive Order (EO) 13690 of January 30, 2015. Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input. *Federal Register*, Volume 80, Issue 6425.

Federal Emergency Management Agency (FEMA). 2009a. Flood Insurance Rate Map (Map No. 51033C0250C).

Federal Emergency Management Agency (FEMA). 2009b. Flood Insurance Rate Map (Map No. 51033C0100C).

Fort A.P. Hill (FAPH). 2015. Master Planning Working Group Equipment Concentration Site Alternatives Analysis. PowerPoint Presentation. March.

Fort A.P. Hill (FAPH). 2016. *Integrated Natural Resources Management Plan.* Draft.

Fort A.P. Hill (FAPH). 2017. *Final Environmental Assessment and Finding of No Significant Impact Equipment Concentration Site, U.S. Army Reserve, Fort A.P. Hill, Virginia.* March.

Gray and Pape. 2016. *A Phase I Cultural Resources Survey of Approximately 16.6 Hectares (41 Acres) in Training Area 22B for the Proposed Equipment Concentration Site (ECS) Project, Fort A.P. Hill, Caroline County, Virginia.* June 30.

Google Earth. 2019. Aerial Imagery from 2009 to 2019. Accessed November 25, 2019.

Institute of Transportation Engineers. 2008. *Traffic Engineering Handbook.*

Natural Resources Conservation Service (NRCS). 2016. Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm. Accessed on May 20, 2016.

U.S. Environmental Protection Agency (EPA). 2010. Glossary of Climate Change Terms.

U.S. Fish and Wildlife Service. 2016. Official Service Act Species List. Information for Planning and Conservation. December 9.

Virginia Department of Environmental Quality (VDEQ). 2016. Virginia Coastal Zone Management Program. http://www.deq.virginia.gov/Programs/CoastalZoneManagement/DescriptionBoundary.aspx. Accessed on July 10, 2016.

Virginia Department of Forestry. 2011. *Virginia Department of Forestry's Best Management Practices for Water Quality Technical Manual*. Fifth edition. March.

XCEL Engineering, Inc. (XCEL). 2016. *Environmental Condition of Property Report Proposed Military Construction Project, A.P. Hill Drive and Shackleford Road, Fort A.P. Hill, Caroline County, Virginia*. Draft. July.

Appendix A
Coordination Letters and Responses

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DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Dear Elected Official:

Fort A.P. Hill and the U.S. Army Corps of Engineers are preparing an Amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

The Amendment to the EA is being prepared in accordance with the National Environmental Policy Act (NEPA). In addition to meeting the requirements of NEPA, compliance with other environmental regulations (including Section 7 of the Endangered Species Act, Section 106 of the National Historic Preservation Act, and Coastal Zone Management Act) will be accomplished during development of the Amendment to the EA.

The equipment concentration site maintenance facility identified in the original EA is under construction in accordance with the modified tactical equipment maintenance facility standard. Once completed, the facility will consist of five standard work bays, administrative offices, locker rooms, toilets/showers, classroom/break area, library, tool and parts room, welding shop, tire changing area, arms vault, and maintenance areas for in- and out-processing of military equipment. The general purpose warehouse building will provide the required space to store large items that need a climate-controlled environment. The project also provides a bi-level equipment loading ramp and adequate parking space for military and privately owned vehicles. The site for the project is an approximately 40-acre parcel on Fort A.P. Hill, north of Shackleford Road and east of A.P. Hill Drive (Figure 1).

During preparation of the EA Amendment, detailed investigations will be undertaken to identify potential social, economic, and environmental impacts of shifting the original project footprint to include the additional 10 acres. If impacts are identified, they will be documented in the EA Amendment, which will be made available for a 30-day public review period. As part of the NEPA early coordination process, we are identifying key issues to be addressed in the Amendment to the EA. Please provide any comments you may have relative to the following topics:

- Specific issues or geographic areas of concern, based on your expertise or regulatory jurisdiction
- Available technical information regarding these issues
- Mitigation or permitting requirements that may be necessary for project implementation

Please send your comments or responses within 30 days of receipt of this letter to the Directorate of Public Works, Environmental and Natural Resources Division – NEPA Coordinator, 19952 N. Range Road, Fort A.P. Hill, VA 22427-3123. Or email responses to: usarmy.aphill.imcom-northeast.mail.ernd@mail.mil.

If you have any questions, please contact the Environmental and Natural Resources Division at (804) 633-8255 or at the above-referenced email address.

Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

Figure 1. Originally Proposed Equipment Concentration Site Footprint and New 10-Acre Parcel to Be Analyzed in the Amendment to the Environmental Assessment

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Mr. Andy Hofmann
U.S. Fish and Wildlife Service
Eastern Virginia Rivers Refuge Complex
336 Wilna Road
Warsaw, VA 22572

Dear Mr. Hofmann:

Fort A.P. Hill and the U.S. Army Corps of Engineers are preparing an Amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

The Amendment to the EA is being prepared in accordance with the National Environmental Policy Act (NEPA). In addition to meeting the requirements of NEPA, compliance with other environmental regulations (including Section 7 of the Endangered Species Act, Section 106 of the National Historic Preservation Act, and Coastal Zone Management Act) will be accomplished during development of the Amendment to the EA.

The equipment concentration site maintenance facility identified in the original EA is under construction in accordance with the modified tactical equipment maintenance facility standard. Once completed, the facility will consist of five standard work bays, administrative offices, locker rooms, toilets/showers, classroom/break area, library, tool and parts room, welding shop, tire changing area, arms vault, and maintenance areas for in- and out-processing of military equipment. The general purpose

warehouse building will provide the required space to store large items that need a climate-controlled environment. The project also provides a bi-level equipment loading ramp and adequate parking space for military and privately owned vehicles. The site for the project is an approximately 40-acre parcel on Fort A.P. Hill, north of Shackleford Road and east of A.P. Hill Drive (Figure 1).

During preparation of the EA Amendment, detailed investigations will be undertaken to identify potential social, economic, and environmental impacts of shifting the original project footprint to include the additional 10 acres. If impacts are identified, they will be documented in the EA Amendment, which will be made available for a 30-day public review period. As part of the NEPA early coordination process, we are identifying key issues to be addressed in the Amendment to the EA. Please provide any comments you may have relative to the following topics:

- Specific issues or geographic areas of concern, based on your expertise or regulatory jurisdiction
- Available technical information regarding these issues
- Mitigation or permitting requirements that may be necessary for project implementation

Please send your comments or responses within 30 days of receipt of this letter to the Directorate of Public Works, Environmental and Natural Resources Division – NEPA Coordinator, 19952 N. Range Road, Fort A.P. Hill, VA 22427-3123. Or email responses to: usarmy.aphill.imcom-northeast.mail.ernd@mail.mil.

If you have any questions, please contact the Environmental and Natural Resources Division at (804) 633-8255 or at the above-referenced email address.

Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

Figure 1. Originally Proposed Equipment Concentration Site Footprint and New 10-Acre Parcel to Be Analyzed in the Amendment to the Environmental Assessment

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Ms. Regena Bronson
U.S. Army Corps of Engineers
1329 Alum Spring Road, Suite 202
Fredericksburg, VA 22401

Dear Ms. Bronson:

Fort A.P. Hill and the U.S. Army Corps of Engineers are preparing an Amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

The Amendment to the EA is being prepared in accordance with the National Environmental Policy Act (NEPA). In addition to meeting the requirements of NEPA, compliance with other environmental regulations (including Section 7 of the Endangered Species Act, Section 106 of the National Historic Preservation Act, and Coastal Zone Management Act) will be accomplished during development of the Amendment to the EA.

The equipment concentration site maintenance facility identified in the original EA is under construction in accordance with the modified tactical equipment maintenance facility standard. Once completed, the facility will consist of five standard work bays, administrative offices, locker rooms, toilets/showers, classroom/break area, library, tool and parts room, welding shop, tire changing area, arms vault, and maintenance areas for in- and out-processing of military equipment. The general purpose

warehouse building will provide the required space to store large items that need a climate-controlled environment. The project also provides a bi-level equipment loading ramp and adequate parking space for military and privately owned vehicles. The site for the project is an approximately 40-acre parcel on Fort A.P. Hill, north of Shackleford Road and east of A.P. Hill Drive (Figure 1).

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FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Chief Robert Gray
Pamunkey Indian Tribe
64 Lay Landing Road
King William, VA 23086

Dear Chief Gray:

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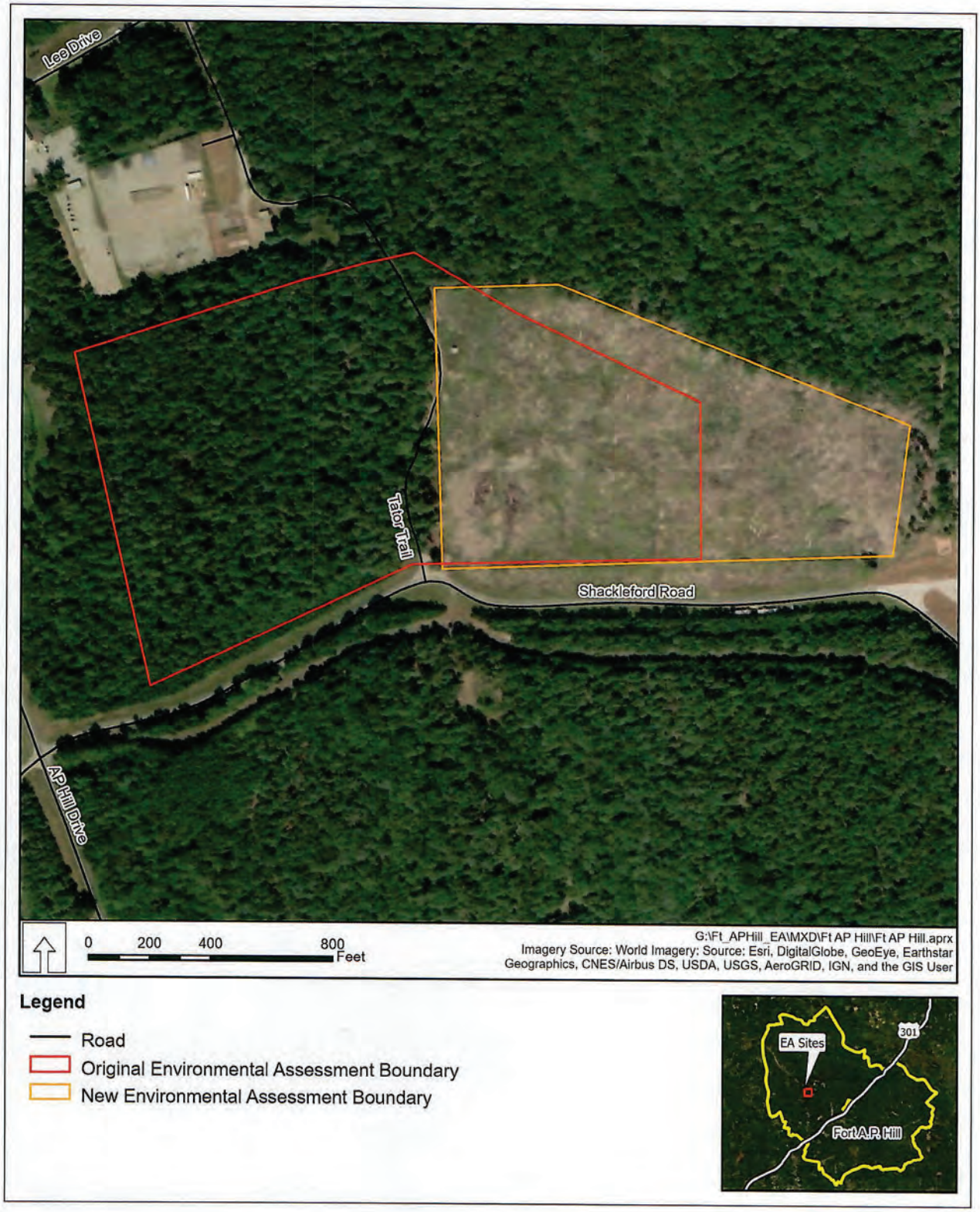

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HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Mr. Kendall Fancher
Chief, NGS Instrumentation & Methodologies Branch
15351 Office Drive
Woodford, VA 22580

Dear Mr. Fancher:

Fort A.P. Hill and the U.S. Army Corps of Engineers are preparing an Amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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Commanding

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18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

To Whom It May Concern:

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18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Mr. Troy Andersen
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Dear Mr. Andersen:

Fort A.P. Hill and the U.S. Army Corps of Engineers are preparing an Amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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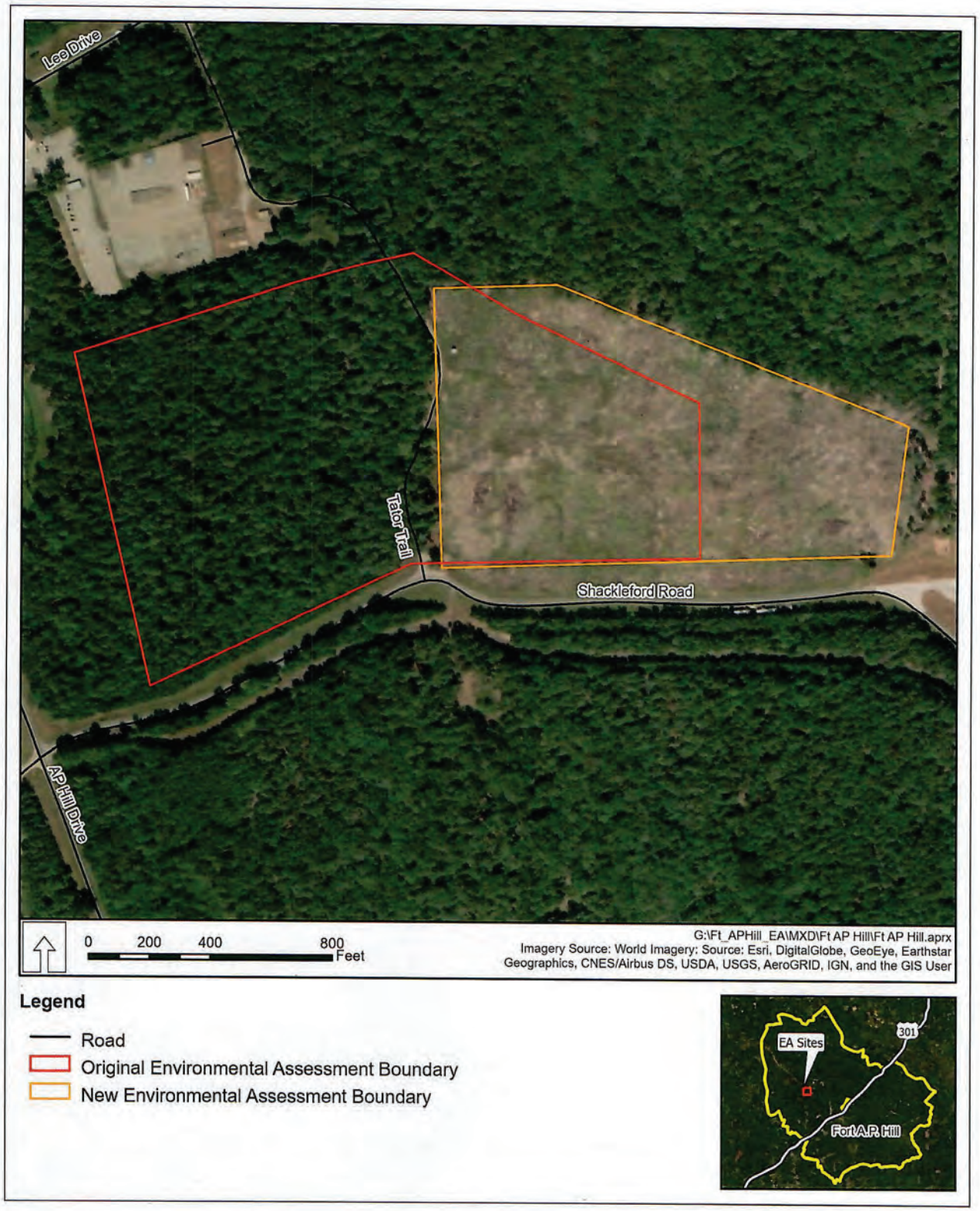

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HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Ms. Julia Wellman
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street
Richmond, VA 23219

Dear Ms. Wellman:

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FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Ms. Rene Hypes
Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street
Richmond, VA 23219

Dear Ms. Hypes:

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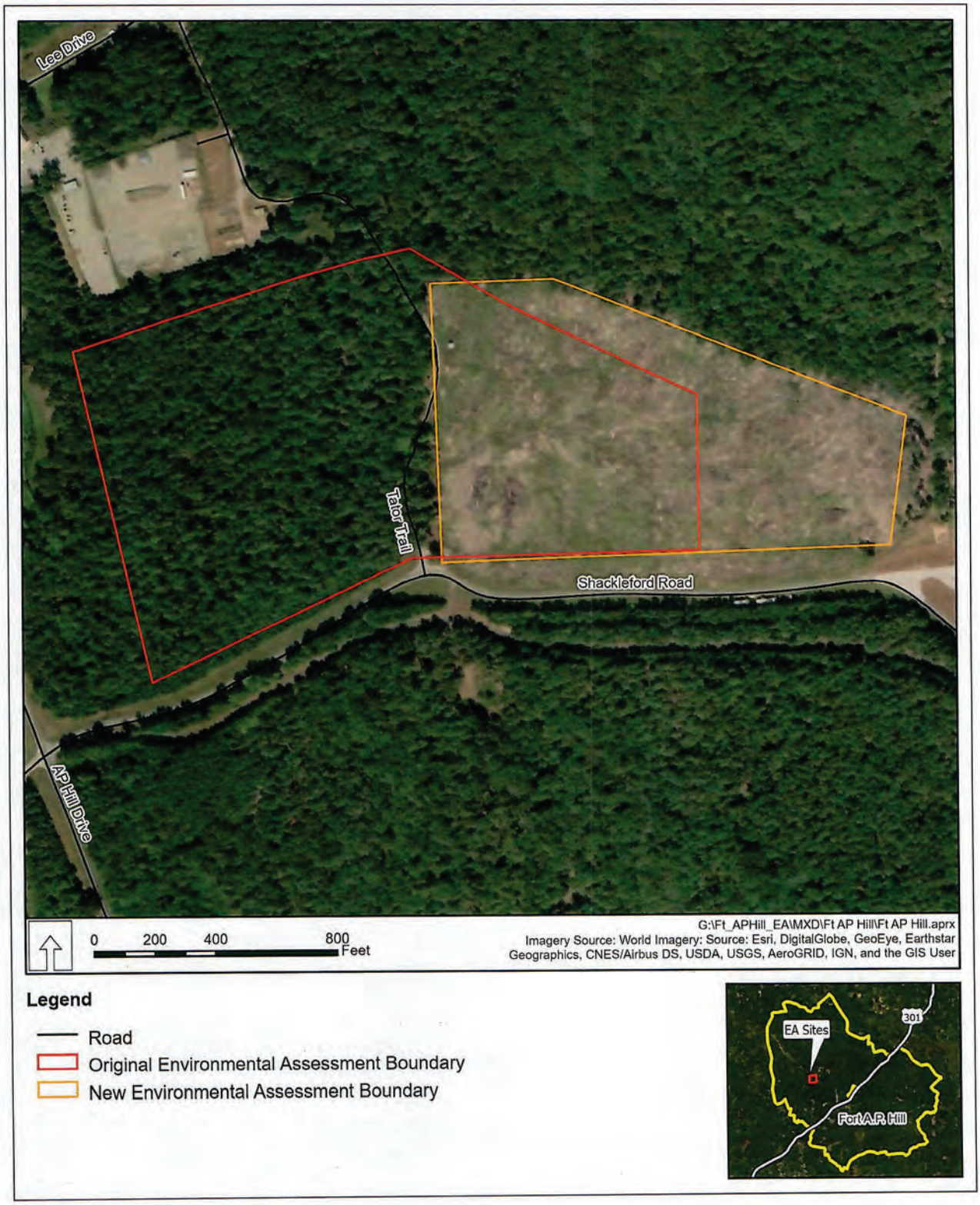

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HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Chief Anne Richardson
Rappahannock Tribe Cultural Center
5036 Indian Neck Road
Indian Neck, VA 23148

Dear Chief Richardson:

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18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

November 27, 2019

Directorate of Public Works

Mr. Marc Holma
Commonwealth of Virginia
Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 22580

Dear Mr. Holma:

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warehouse building will provide the required space to store large items that need a climate-controlled environment. The project also provides a bi-level equipment loading ramp and adequate parking space for military and privately owned vehicles. The site for the project is an approximately 40-acre parcel on Fort A.P. Hill, north of Shackleford Road and east of A.P. Hill Drive (Figure 1).

During preparation of the EA Amendment, detailed investigations will be undertaken to identify potential social, economic, and environmental impacts of shifting the original project footprint to include the additional 10 acres. If impacts are identified, they will be documented in the EA Amendment, which will be made available for a 30-day public review period. As part of the NEPA early coordination process, we are identifying key issues to be addressed in the Amendment to the EA. Please provide any comments you may have relative to the following topics:

- Specific issues or geographic areas of concern, based on your expertise or regulatory jurisdiction
- Available technical information regarding these issues
- Mitigation or permitting requirements that may be necessary for project implementation

Please send your comments or responses within 30 days of receipt of this letter to the Directorate of Public Works, Environmental and Natural Resources Division – NEPA Coordinator, 19952 N. Range Road, Fort A.P. Hill, VA 22427-3123. Or email responses to: usarmy.aphill.imcom-northeast.mail.ernd@mail.mil.

If you have any questions, please contact the Environmental and Natural Resources Division at (804) 633-8255 or at the above-referenced email address.

Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

Figure 1. Originally Proposed Equipment Concentration Site Footprint and New 10-Acre Parcel to Be Analyzed in the Amendment to the Environmental Assessment

-----Original Message-----
From: Lisa Stevens [mailto:lstevens@ccps.us]
Sent: Thursday, January 16, 2020 10:41 AM
To: USARMY Ft AP Hill IMCOM Atlantic Mailbox ERND <usarmy.aphill.imcom-atlantic.mbx.ernd@mail.mil>
Cc: Sarah Calveric <scalveric@ccps.us>
Subject: [Non-DoD Source] 10 Acre Parcel proposed equipment concentration site

_____

Dear Lieutenant Colonel Gates:
In response to your letter dated November 27, 2019 regarding Fort A.P.Hill and the U.S. Army Corps of engineers preparing an Amendment to the Final Environmental Assessment Equipment Concentration Site US Army Reserve Fort A.P. Hill, Caroline County Public Schools has reviewed the information and has no issue at this time.

This information was reviewed by Geoffrey Honan, Maintenance Supervisor of Caroline County Public Schools and Dr. Sarah Calveric, Superintendent of Schools.

Lisa D. Stevens
Administrative Assistant to the Superintendent Clerk of the School Board

Caroline County Public Schools

16261 Richmond Turnpike
Bowling Green, VA 22427
(804) 633-5088

The Free Lance-Star

Advertising Affidavit

THE FREE LANCE-STAR
1340 Central Park Blvd
Suite 100
Fredericksburg, Va 22401

Account Number
6116217

VERNADERO GROUP INCORPORATED
2730 EAST CAMELBACK RD., SUITE 210
PHOENIX, AZ 85016

Date
December 17, 2019

Date	Category	Description	Ad Size	Total Cost
12/17/2019	Legal Notices	NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT An Am	2 x 0 L	352.60

NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

An Amendment to the Final Environmental Assessment for Equipment Concentration Site, U.S. Army Reserve, Fort A.P. Hill, Virginia, dated 5 March 2017, is being prepared to evaluate the potential environmental impacts of constructing and operating an equipment concentration site on Fort A.P. Hill. The U.S. Army Reserve 99th Readiness Division is constructing the equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

The Proposed Action includes construction of a tactical equipment maintenance facility, a general purpose warehouse, an equipment loading ramp, and parking areas for military equipment and privately owned vehicles. Because the project relies on federal funding and occurs on federal property, it must comply with the National Environmental Policy Act of 1969, as amended. The equipment concentration site maintenance facility identified in the original EA is under construction in accordance with the modified tactical equipment maintenance facility standard.

As a part of the general scoping process, citizens are invited to submit comments within 30 days of this notice to the Fort A.P. Hill Directorate of Public Works, Environmental and Natural Resources Division, 19952 North Range Road, Bldg. 1220, Fort A.P. Hill, Virginia, 22427, or by email at: usarmy.aphill.imcom-northeast.mail.ernd@mail.mil.

Notification letters have been provided to local elected leaders and appropriate organizations and agencies in the region for comment. The next opportunity to comment on the project will be after the Amendment to the EA is drafted. The draft will be available on the Fort A.P. Hill website at: https://home.army.mil/aphill/index.php/my-fort/all-services/environmental/national-environmental-policy-act.

Proof of Publication

I hereby certify that the attached notice was published in The Free Lance-Star, a newspaper published daily in Fredericksburg, Va. on the following date(s);

12/17/2019

___ **Listed additionally on-line @ Fredericksburg.com**

Newspaper reference: 0001040847

Brenda Brown
Publisher, Supervisor or Accounting Assistant

Sworn to and subscribed before me this

17th Day of December 2019

Kimberly B Harris
Notary Public

State of Virginia
County/City

Kimberly B. Harris
NOTARY PUBLIC
Commonwealth of Virginia
Notary Registration Number 356753
Commission Expires January 31, 2021

My Commission expires _____

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Appendix B
Notice of 30-Day Period for Public Comment and Comments Received

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DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

To Whom It May Concern:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

The Amended EA and Draft Finding of No Significant Impact (FNSI) are available for review at the Caroline County Public Library's Bowling Green Branch, 17202 Richmond Turnpike, Milford, VA 22514 and the Port Royal Branch, 419 King Street, Port Royal, VA 22535, and on the Fort A.P. Hill website at https://home.army.mil/aphill/index.php/my-fort/all-services/environmental/national-environmental-policy-act.

We respectfully request your comments on the Amended EA and FNSI be submitted within thirty (30) days. Please send your responses to the Directorate of Public Works, Environmental and Natural Resources Division – NEPA Coordinator, 19952 N. Range Road, Fort A.P. Hill, VA 22427-3123. You may also email responses to usarmy.aphill.imcom-northeast.mail.ernd@mail.mil. If you have any questions, please contact the Environmental and Natural Resources Division at (804) 633-8255 or at the above-referenced email address.

Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Dear Elected Official:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Ms. Kendra Pednault
U.S. Fish and Wildlife Service
Eastern Virginia Rivers Refuge Complex
336 Wilna Road
Warsaw, VA 22572

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Ms. Julia Wellman
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street
Richmond, VA 23219

Dear Ms. Wellman:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

The Amended EA and Draft Finding of No Significant Impact (FNSI) are available for review at the Caroline County Public Library's Bowling Green Branch, 17202 Richmond Turnpike, Milford, VA 22514 and the Port Royal Branch, 419 King Street, Port Royal, VA 22535, and on the Fort A.P. Hill website at https://home.army.mil/aphill/index.php/my-fort/all-services/environmental/national-environmental-policy-act.

We respectfully request your comments on the Amended EA and FNSI be submitted within thirty (30) days. Please send your responses to the Directorate of Public Works, Environmental and Natural Resources Division – NEPA Coordinator, 19952 N. Range Road, Fort A.P. Hill, VA 22427-3123. You may also email responses to usarmy.aphill.imcom-northeast.mail.ernd@mail.mil. If you have any questions, please contact the Environmental and Natural Resources Division at (804) 633-8255 or at the above-referenced email address.

Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Mr. Troy Andersen
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Dear Mr. Andersen:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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We respectfully request your comments on the Amended EA and FNSI be submitted within thirty (30) days. Please send your responses to the Directorate of Public Works, Environmental and Natural Resources Division – NEPA Coordinator, 19952 N. Range Road, Fort A.P. Hill, VA 22427-3123. You may also email responses to usarmy.aphill.imcom-northeast.mail.ernd@mail.mil. If you have any questions, please contact the Environmental and Natural Resources Division at (804) 633-8255 or at the above-referenced email address.

Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Mr. Marc Holma
Commonwealth of Virginia
Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 22580

Dear Mr. Holma:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Chief Robert Gray
Pamunkey Indian Tribe
64 Lay Landing Road
King William, VA 23086

Dear Chief Gray:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Chief Anne Richardson
Rappahannock Tribe Cultural Center
5036 Indian Neck Road
Indian Neck, VA 23148

Dear Chief Richardson:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Ms. Rene Hypes
Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street
Richmond, VA 23219

Dear Ms. Hypes:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Ms. Regena Bronson
U.S. Army Corps of Engineers
1329 Alum Spring Road, Suite 202
Fredericksburg, VA 22401

Dear Ms. Bronson:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

DEPARTMENT OF THE ARMY
US ARMY IMCOM DIRECTORATE - SUSTAINMENT
HEADQUARTERS, US ARMY GARRISON FORT A.P. HILL
18436 4TH STREET
FORT A.P. HILL, VIRGINIA 22427-3114

March 13, 2020

Directorate of Public Works

Mr. Kendall Fancher
Chief, NGS Instrumentation & Methodologies Branch
15351 Office Drive
Woodford, VA 22580

Dear Mr. Fancher:

Fort A.P. Hill has prepared an amendment to the *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia,* dated 5 March 2017. The U.S. Army Reserve 99th Readiness Division is constructing an equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

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Sincerely,

Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

The Free Lance-Star

Advertising Affidavit

THE FREE LANCE-STAR
1340 Central Park Blvd
Suite 100
Fredericksburg, Va 22401

Account Number
6118718

VERNADERO GROUP, INC.
4500 GOVERNMENT ST., #66672
BATON ROUGE, LA 70896

Date
March 26, 2020

Date	Category	Description	Ad Size	Total Cost
03/26/2020	Any-Main-FLS	NOTICEOF30DAYPERIODFORPUBLICCOMMENTANAMENDME	2 x 6.50 IN	356.20

Proof of Publication

I hereby certify that the attached notice was published in The Free Lance-Star, a newspaper published daily in Fredericksburg, Va. on the following date(s);

03/26/2020

____ **Listed additionally on-line @ Fredericksburg.com**

Newspaper reference: 0001078688

Nellie Johnson

Publisher, Supervisor or Accounting Assistant

Sworn to and subscribed before me this

26th Day of March 2020

Kimberly B Harris

Notary Public

Kimberly B. Harris
NOTARY PUBLIC
Commonwealth of Virginia
Notary Registration Number 356753
Commission Expires January 31, 2021

State of Virginia
County/City Hanover

My Commission expires _____

NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

An Amendment to the *Final Environmental Assessment for Equipment Concentration Site, U.S. Army Reserve, Fort A.P. Hill, Virginia*, dated 5 March 2017, is being prepared to evaluate the potential environmental consequences associated with the change in construction location of the equipment concentration site, to include an additional 10-acre parcel, on Fort A.P. Hill. The U.S. Army Reserve 99th Readiness Division is constructing the equipment concentration site at Fort A.P. Hill in Caroline County, Virginia, and construction is approximately 70 percent complete. However, Fort A.P. Hill identified that the project shifted to the east during the final design process onto an approximately 10-acre parcel that was not covered under the original Environmental Assessment (EA). The originally proposed footprint of the new equipment concentration site will remain the same but will be shifted east to include the 10-acre parcel. Therefore, the existing EA is being amended to include the additional 10-acre parcel.

The Proposed Action includes construction of a tactical equipment maintenance facility, a general-purpose warehouse, an equipment loading ramp, and parking areas for military equipment and privately owned vehicles. Because the project relies on federal funding and occurs on federal property, it must comply with the National Environmental Policy Act (NEPA) of 1969, as amended. The equipment concentration site maintenance facility identified in the original EA is under construction in accordance with the modified tactical equipment maintenance facility standard.

As a part of the NEPA process, Fort A. P. Hill invites all interested members of the public to review and provide comments within 30 days of this notice. A copy of the Amended EA and draft Finding of No Significant Impact is available for review on the Fort A.P. Hill website at https://home.army.mil/aphill/index.php/my-fort/all-services/environmental/national-environmental-policy-act.

Notification letters have been provided to local elected leaders and appropriate organizations and agencies in the region for comment. Written comments will be received and considered for up to 30 days from the publication of this notice and should be directed to the Fort A.P. Hill Directorate of Public Works, Environmental and Natural Resources Division – NEPA Coordinator, 19952 N. Range Road, Fort A.P. Hill, VA 22427-3123, or by email at usarmy.aphill.imcom-northeast.mail.ernd@mail.mil.

COMMONWEALTH of VIRGINIA

Department of Historic Resources

Matt Strickler
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
www.dhr.virginia.gov

10 April 2020

LTC Michael E. Gates
Department of the Army
US Army IMCOM Directorate—Sustainment
Headquarters, US Army Garrison, Fort A. P. Hill
18436 4th Street
Fort A. P. Hill, Virginia 22427-3114

Re: Construction of an equipment concentration site—shift in alignment to the east
Ft. A. P. Hill, Caroline County
DHR File No. 2020-0255

Dear LTC Gates:

The Department of Historic Resources (DHR) has received your letter of 13 March 2020 regarding the above referenced project. It is our understanding that the equipment construction site was nearly 70% complete when the Army realized the project alignment shift east during the final design process onto an approximately 10-acre parcel no covered under the original Environmental Assessment review. As this situation has the potential to affect historic properties, specifically archaeological sites, eligible for listing in the National Register of Historic Places, the DHR requests Fort A.P. Hill consult with us pursuant to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800.

If you have any questions about our comments, please call me at (804) 482-6090.

Sincerely,

Marc Holma, Architectural Historian
Division of Review and Compliance

C: Mr. John Mullin, ARMY

Administrative Services
10 Courthouse Ave.
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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 1111 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

April 30, 2020

Fort A.P. Hill Directorate of Public Works
Environmental and Natural Resources Division
NEPA Coordinator
19952 North Range Road
Fort A.P. Hill, Virginia 22427-3123
Via email: usarmy.aphill.imcom-northeast.mail.ernd@mail.mil

RE: Amendment to Final Environmental Assessment, Equipment Concentration Site, U.S. Army Reserve, Fort A.P. Hill, Caroline County, DEQ 20-043F.

Dear Director:

The Commonwealth of Virginia has completed its review of the above-referenced project. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of environmental documents submitted under the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of federal consistency documents submitted pursuant to the Coastal Zone Management Act (CZMA) and providing the state's response. DEQ responded to a Draft Environmental Assessment (EA) for the original proposal on February 9, 2017 (DEQ #17-009F) and a Federal Consistency Determination (FCD) on January 12, 2017 (DEQ #16-225F). This is in response to the March 2020 Amendment to the Final EA for the proposed project. DEQ will respond to the FCD included in the EA (Appendix C) following the end of the public comment period on May 11, 2020. The following agencies and locality participated in this review:

Department of Environmental Quality
Department of Game and Inland Fisheries
Department of Conservation and Recreation
Department of Health
Caroline County

In addition, the Marine Resources Commission, Department of Historic Resources, and the George Washington Regional Commission were invited to comment on the proposal.

PROJECT DESCRIPTION

The Department of the Army, U.S. Army Reserve (USAR) is currently constructing an equipment concentration site (ECS) at Fort A.P. Hill in Caroline County, Virginia. A Final EA and a FCD were prepared in 2017 for the Proposed Action and a finding of no significant impact (FONSI) was signed on March 5, 2017. Construction is now approximately 70 percent complete. However, the project footprint has shifted to the east to an approximately 10-acre parcel that was not covered under the EA and FCD. The originally proposed footprint of the new ECS remains the same, but has shifted east to include a 10-acre parcel. Therefore, the EA has been amended to include the additional 10-acre parcel.

The ECS is under construction on approximately 41 acres of land northwest of the intersection of Shackleford Road and A.P. Hill Drive. The ECS will include a 27,443-square-foot tactical equipment maintenance facility (TEMF), a 55,000-square-foot general purpose warehouse, a bi-level equipment loading ramp, and parking areas for military equipment and privately owned vehicles. The Proposed Action also includes construction of stormwater management features. Additional construction activities consist of paving, fencing, making general site improvements, and extending utilities to serve the new facilities. Some grading and leveling of land is required on site. Disturbed areas that are not within the footprint of the proposed buildings or parking areas would be landscaped and used to meet security setback requirements. Buildings would comply with the Americans with Disabilities Act (ADA) and the Leadership in Energy and Environmental Design (LEED) Silver standard, feature low-impact development, and consider renewable energy initiatives.

CONCLUSION

Provided activities are performed in accordance with the recommendations which follow in the Environmental Impacts and Mitigation section of this report, the amended project is unlikely to have significant effects on ambient air quality, important farmland, forest resources, and wetlands. It is unlikely to adversely affect species of plants or insects listed by state agencies as rare, threatened, or endangered.

ENVIRONMENTAL IMPACTS AND MITIGATION

1. Water Quality and Wetlands. According to the EA (page 3-7), a wetland delineation within the Project Area and adjacent areas, including the additional 10-acre parcel, was conducted on May 23 and 24, 2016. No surface waters or wetlands were identified within the Project Area, including the 10-acre parcel.

1(a) Agency Jurisdiction. The State Water Control Board promulgates Virginia's water regulations covering a variety of permits to include the Virginia Pollutant Discharge Elimination System Permit regulating point source discharges to surface waters, Virginia Pollution Abatement Permit regulating sewage sludge, storage and land application of biosolids, industrial wastes (sludge and wastewater), municipal wastewater, and animal

wastes, the Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection (VWP) Permit regulating impacts to streams, wetlands, and other surface waters. The VWP permit is a state permit which governs wetlands, surface water, and surface water withdrawals and impoundments. It also serves as §401 certification of the federal Clean Water Act §404 permits for dredge and fill activities in waters of the U.S. The VWP Permit Program is under the Office of Wetlands and Stream Protection, within the DEQ Division of Water Permitting. In addition to central office staff that review and issue VWP permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities:

- Clean Water Act, §401;
- Section 404(b)(i) Guidelines Mitigation Memorandum of Agreement (2/90);
- State Water Control Law, Virginia Code section 62.1-44.15:20 *et seq*.; and
- State Water Control *Regulations*, 9 VAC 25-210-10.

1(b) Agency Findings. The Virginia Water Protection (VWP) Permit program at the DEQ Northern Regional Office (NRO) did not indicate that surface waters or wetlands would be impacted at the 10-acre parcel.

1(c) Requirements. A VWP Permit from DEQ may be required should the project change and impacts to jurisdictional waters are anticipated. Upon receipt of a Joint Permit Application (JPA) for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP Permit program regulations and guidance.

For additional information, contact DEQ-NRO, Trisha Beasley at (703) 583-3940 or trisha.beasley@deq.virginia.gov.

2. Erosion and Sediment Control and Stormwater Management. According to the EA (page 4-1), erosion and sediment controls and stormwater management facilities will be installed in accordance with the DEQ approved Erosion and Sediment Control Plan, Stormwater Management Plan, and the Stormwater Pollution Prevention Plan.

2(a) Agency Jurisdiction. The DEQ Office of Stormwater Management (OSWM) administers the following laws and regulations governing construction activities:

- Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 *et seq*.) and *Regulations* (9 VAC 25-840) (VESCL&R);
- Virginia Stormwater Management Act (VSMA, § 62.1-44.15:24 *et seq*.);
- Virginia Stormwater Management Program (VSMP) Regulation (9 VAC 25-870); and
- 2014 General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880).

In addition, DEQ is responsible for the VSMP General Permit for Stormwater

Discharges from Construction Activities related to Municipal Separate Storm Sewer Systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land disturbing activities under the Virginia Stormwater Management Program (9 VAC 25-890-40).

2(b) Requirements.

(i) Erosion and Sediment Control and Stormwater Management Plans

USAR and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with *VESCL&R* and *VSWML&R,* including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 10,000 square feet (2,500 square feet or more in a Chesapeake Bay Preservation Area) would be regulated by *VESCL&R.* Accordingly, the applicant must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations.

Land-disturbing activities that result in the total land disturbance of equal to or greater than 1 acre (2,500 square feet in Chesapeake Bay Preservation Area) would be regulated by *VSWML&R.* Accordingly, the applicant must prepare and implement a Stormwater Management (SWM) plan to ensure compliance with state law and regulations. The ESC/SWM plan is submitted to DEQ-NRO, which serves the area where the project is located, for review for compliance. The applicant is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: VESCL 62.1-44.15 *et seq*.]

(ii) General Permit for Discharges of Stormwater from Construction Activities (VAR10)

The owner or operator of projects involving land-disturbing activities of equal to or greater than one acre is required to apply for registration coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater pollution prevention plan (SWPPP). Construction activities requiring registration also include land disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan of development will collectively disturb equal to or greater than one acre

- The SWPPP must be prepared prior to submission of the registration statement for coverage under the General Permit.
- The SWPPP must address water quality and quantity in accordance with the VSMP Permit Regulations.

General information and registration forms for the general permit are available at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx. [Reference: Virginia Stormwater Management Act 62.1-44.15 *et seq.*; VSMP Permit Regulations 9 VAC 25-880 *et seq.*].

2(c) Recommendation. DEQ-NRO recommends that consideration should be given to using permeable paving for parking areas and walkways where appropriate, and that denuded areas are promptly revegetated following construction.

3. Air Quality Regulation. According to the EA (page 3-13), implementation of the Preferred Alternative would result in minor, direct, short-term, adverse impacts on overall air quality from construction of the new facility and minor, direct, long-term, adverse impacts from stationary source emissions associated with operation of the proposed ECS.

3(a) Agency Jurisdiction. The DEQ Air Division, on behalf of the State Air Pollution Control Board, is responsible for developing regulations that implement Virginia's Air Pollution Control Law (Virginia Code §10.1-1300 *et seq.*). DEQ is charged with carrying out mandates of the state law and related regulations as well as Virginia's federal obligations under the Clean Air Act as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate DEQ regional office is directly responsible for the issuance of necessary permits to construct and operate all stationary sources in the region as well as monitoring emissions from these sources for compliance. As a part of this mandate, EIRs of projects to be undertaken in the state are also reviewed. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

The Air Division regulates emissions of air pollutants from industries and facilities and implements programs designed to ensure that Virginia meets national air quality standards. The most common regulations associated with major State projects are:

- Open burning: 9 VAC 5-130 *et seq.*
- Fugitive dust control: 9 VAC 5-50-60 *et seq.*
- Permits for fuel-burning equipment: 9 VAC 5-80-1100 *et seq.*

4(b) Agency Findings. According to the DEQ Air Division, the project site is located in an ozone (O_3) attainment area.

4(c) Recommendation. USAR is encouraged to take all reasonable precautions to limit emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), principally by controlling or limiting the burning of fossil fuels.

4(d) Requirements. The following regulatory requirements will apply to the proposed action.

(i) Fugitive Dust

During construction fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution*. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(ii) Open Burning

If project activities include the burning of construction or demolition material, this activity must meet the requirements under 9 VAC 5-130 *et seq.* of the *Regulations* for open burning, and it may require a permit. Should open burning or use of special incineration devices be employed in the disposal of land-clearing debris during construction, the operation would be subject to the *Open Burning Regulation* (9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100). The *Regulations* for open burning provide for, but do not require, the local adoption of a model ordinance concerning open burning. USAR should contact Caroline County fire officials to determine what local requirements, if any, exist.

(iii) Fuel Burning Equipment

Should the structures require the installation of fuel burning equipment (e.g. boilers and generators), a permit may be required prior to beginning construction of the facility (9 VAC 5-80, Article 6, Permits for New and Modified Sources). USAR should contact DEQ-NRO for guidance on whether this provision applies.

5. Chesapeake Bay Preservation Areas. The EA does not include an evaluation of potential project impacts on lands analogous to Chesapeake Bay Preservation Areas. However, the FCD (EA, Appendix C, page 10) states that "*there are no Restoration Protection Areas [sic] or Restoration Management Areas [sic] on the project.*"

5(a) Agency Jurisdiction. The DEQ Office of Watersheds and Local Government Assistance Programs (OWLGAP) administers the Chesapeake Bay Preservation Act (Virginia Code §62.1-44.15:67 *et seq*.) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (9 VAC 25-830-10 *et seq*.). Each Tidewater locality must adopt a program based on the Bay Act and *Regulations*. The Act and

Regulations recognize local government responsibility for land use decisions and are designed to establish a framework for compliance without dictating precisely what local programs must look like. Local governments have flexibility to develop water quality preservation programs that reflect unique local characteristics and embody other community goals. Such flexibility also facilitates innovative and creative approaches in achieving program objectives. The regulations address nonpoint source pollution by identifying and protecting certain lands called Chesapeake Bay Preservation Areas. The regulations use a resource-based approach that recognizes differences between various land forms and treats them differently.

5(b) Chesapeake Bay Preservation Areas. DEQ-OWLGAP notes that, in Caroline County, the areas protected by the Bay Act require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include:

- tidal wetlands;
- certain non-tidal wetlands;
- tidal shores; and
- a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow.

RMAs in Caroline County, which require less stringent performance criteria than RPAs, include floodplains, highly erodible soils (including steep slopes), highly permeable soils, and non-tidal wetlands not included in the RPA.

5(c) Agency Findings. DEQ-OWLGAP finds that the project site does not include lands analogous to RPA or RMA. Therefore, the project is not subject to the Chesapeake Bay Preservation Act or *Regulations*.

For additional information, contact DEQ-OWLGAP, Daniel Moore at (804) 698-4520 or daniel.moore@deq.virginia.gov.

6. Floodplain Management. The EA (page 3-3) states that a review of the Federal Emergency Management Agency Flood Insurance Rate Map numbers 51033C0250C and 51033C0100C indicated that the Project Area is not within a 500-year floodplain. Therefore, there would be no impacts on floodplains

6(a) Agency Jurisdiction. The DCR Division of Dam Safety and Floodplain Management (DSFM) is the lead coordinating agency for the Commonwealth's floodplain management program and the National Flood Insurance Program (Executive Oder 45). The National Flood Insurance Program (NFIP) is administered by the Federal Emergency Management Agency (FEMA), and communities who elect to participate in this voluntary program manage and enforce the program on the local level through that community's local floodplain ordinance. Each local floodplain ordinance must comply with the minimum standards of the NFIP, outlined in 44 CFR 60.3; however, local

communities may adopt more restrictive requirements in their local floodplain ordinance, such as regulating the 0.2% annual chance flood zone (shaded Zone X).

6(b) Requirements. All development within a Special Flood Hazard Area (SFHA) or floodplain, as shown on the locality's Flood Insurance Rate Map (FIRM), must be permitted and comply with the requirements of the local floodplain ordinance. Projects conducted by federal agencies within the SFHA must comply with federal Executive Order 11988: Floodplain Management.

DCR's Floodplain Management Program does not have regulatory authority for projects in the SFHA. The applicant/developer must contact the local floodplain administrator for an official floodplain determination and comply with the community's local floodplain ordinance, including receiving a local permit. Failure to comply with the local floodplain ordinance could result in enforcement action from the locality. USAR is encouraged to reach out to the local floodplain administrator to ensure compliance with the local floodplain ordinance.

6(c) Recommendations. DCR recommends USAR access the Virginia Flood Risk Information System (VFRIS) at www.dcr.virginia.gov/vfris to find flood zone information. Local floodplain administrator contact information may be found on DCR's Local Floodplain Management Directory at www.dcr.virginia.gov/dam-safety-and-floodplains/floodplain-directory.

7. Solid and Hazardous Wastes and Hazardous Materials. According to the EA (pages 3-16 and 3-17), there is no evidence of recognized environmental conditions in connection with the Project Area. Construction of the new ECS is expected to have short-term, minor, direct, adverse impacts on hazardous substances because some petroleum products would be used to maintain construction equipment and stored or disposed of as a result of proposed construction activities. Before construction began at the Project Area, a spill prevention, control, and countermeasures plan was prepared and it will continue to be followed to minimize occurrences of spills and provide procedures for cleaning up spills that may occur. Operation of the new ECS is expected to have long-term, minor intensity, direct, adverse impacts on the environment from the use of hazardous substances and the disposal of hazardous waste associated with vehicle maintenance.

7(a) Agency Jurisdiction. On behalf of the Virginia Waste Management Board, the DEQ Division of Land Protection and Revitalization (DEQ-DLPR) is responsible for carrying out the mandates of the Virginia Waste Management Act (Virginia Code §10.1-1400 *et seq.*), as well as meeting Virginia's federal obligations under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation Liability Act (CERCLA), commonly known as Superfund.

Virginia:

- Virginia Waste Management Act, Virginia Code § 10.1-1400 *et seq.*

- *Virginia Solid Waste Management Regulations*, 9 VAC 20-81 (9 VAC 20-81-620 applies to asbestos-containing materials)
- *Virginia Hazardous Waste Management Regulations*, 9 VAC 20-60 (9 VAC 20-60-261 applies to lead-based paints)
- *Virginia Regulations for the Transportation of Hazardous Materials*, 9 VAC 20-110.

Federal:

- Resource Conservation and Recovery Act, 42 U.S. Code sections 6901 *et seq.*
- U.S. Department of Transportation *Rules for Transportation of Hazardous Materials*, 49 *Code of Federal Regulations*, Part 107
- Applicable rules contained in Title 40, *Code of Federal Regulations*.

DEQ-DLPR also administers laws and regulations on behalf of the State Water Control Board governing Petroleum Storage Tanks (Virginia Code §62.1-44.34:8 *et seq*.), including Aboveground Storage Tanks (9 VAC 25-91 *et seq*.) and Underground Storage Tanks (9 VAC 25-580 *et seq*. and 9 VAC 25-580-370 *et seq*.), also known as 'Virginia Tank Regulations', and § 62.1-44.34:14 *et seq*. which covers oil spills.

7(b) Agency Findings. DEQ-DLPR staff conducted a search of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity (500-foot radius) to the project area. DLPR search did not identify any waste sites in close proximity which might impact the project.

7(c) Requirements. Any soil, sediment or groundwater that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. All construction waste must be characterized in accordance with the *Virginia Hazardous Waste Management Regulations* prior to management at an appropriate facility.

7(d) Recommendations. DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

For additional questions or further information regarding waste comments, contact DEQ-DLPR, Carlos Martinez at (804) 698-4575 or carlos.martinez@deq.virginia.gov.

8. Pesticides and Herbicides. DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance should be in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used to the extent feasible. Contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information.

9. Natural Heritage Resources. The EA does not include a discussion of potential project impacts on natural heritage resources. However, the FCD (page 7) states in 2017 Department of Conservation and Recreation (DCR) noted that an uncommon wetland habitat, the coastal plain/outer piedmont acidic seepage swamp, is located near the Project Area. In addition, the the TA22B Mill Creek Tributary Stream Conservation Unit is downstream of the Project Area. DCR indicated that a state-listed rare dragonfly could occur near aquatic habitats in the piedmont and coastal regions. The distance between the Project Area and aquatic areas, as well as established riparian buffers on FAPH would prevent the Preferred Alternative from impacting offsite state rare aquatic resources.

9(a) Agency Jurisdiction.

(i) The Virginia Department of Conservation and Recreation's (DCR) Division of Natural Heritage (DNH).

DNH's mission is conserving Virginia's biodiversity through inventory, protection and stewardship. The Virginia Natural Area Preserves Act (Virginia Code §10.1-209 through 217), authorizes DCR to maintain a statewide database for conservation planning and project review, protect land for the conservation of biodiversity, and protect and ecologically manage the natural heritage resources of Virginia (the habitats of rare, threatened and endangered species, significant natural communities, geologic sites, and other natural features).

(ii) The Virginia Department of Agriculture and Consumer Services (VDACS).

The Endangered Plant and Insect Species Act of 1979 (Virginia Code Chapter 39 §3.1-1020 through 1030) authorizes VDACS to conserve, protect and manage endangered and threatened species of plants and insects. Under a Memorandum of Agreement established between VDACS and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

9(b) Agency Findings.

(i) Mill Creek Slopes Conservation Site

According to the information currently in DCR files, the Mill Creek Slopes Conservation Site is located within the project site. The Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resources of concern at this site are:

Coastal Plain/Piedmont Acidic Seepage Swamp G3?/S3/NL/NL
Acer rubrum-Nyssa sylvatica-Magnolia virginiana-Viburnum nudum-Osmunda cinnamomea – Woodwardia areolata Forest

See DCR-DNH comments attached for more detailed information on these resources.

(ii) Ecological Cores

DCR-DNH finds that the proposed project will fragment an Ecological Core C2 as identified in the Virginia Natural Landscape Assessment (https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection. Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species. Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer at http://vanhde.org/content/map. See detailed DCR-DNH comments attached for additional information.

(iii) State-listed Plant and Insect Species

DCR-DNH finds that the activity will not affect any documented state-listed plants or insects at the site.

(iv) State Natural Area Preserves

DCR files do not indicate the presence of any State Natural Area Preserves under the agency's jurisdiction in the project vicinity.

9(c) Recommendations.

(i) Mill Creek Slopes Conservation Site

To minimize adverse impacts to the Coastal Plain/Piedmont Acidic Seepage Swamp as a result of project activities, DCR-DNH recommends:

- avoiding development within 100 meters of the natural heritage resource (Figure 1) and
- implementing and strictly adhering to applicable state and local erosion and sediment control and stormwater management laws and regulations.

(ii) Ecological Cores

DCR-DNH recommends the implementation of measures to minimize edge in remaining fragments, retain natural corridors that allow movement between fragments, and designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns).

(iii) Natural Heritage Resources

Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes or six months pass before the project is implemented, since new and updated information is continually added to the Biotics Data System.

10. Wildlife Resources and Protected Species. According to the EA (page 3-4), there are no known federally-listed threatened or endangered plants or animals within the Project Area. The state-listed endangered Tri-colored bat was detected within the Project Area during acoustic surveys conducted on June 9 and 10, 2016. However, state conservation measures apply to known maternity roost trees and winter hibernacula, which do not occur within the Project Area.

10(a) Agency Jurisdiction. The Virginia Department of Game and Inland Fisheries (DGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state- or federally-listed endangered or threatened species, but excluding listed insects (Virginia Code, Title 29.1). DGIF is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S. Code §661 *et seq*.) and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce or compensate for those impacts. For more information, see the DGIF website at *www.dgif.virginia.gov*.

10(b) Agency Findings. DGIF documents the state-listed endangered Little brown bat and Tri-colored bat from the project area. In addition, the project site is located within close proximity of historic and/or active bald eagle nests.

10(c) Recommendations.

(i) Little Brown Bat and Tri-Colored Bat

DGIF recommends that all tree removal adhere to a time-of-year restriction from April 1 through October 1 of any year.

(ii) Bald Eagles

Use the Center for Conservation Biology (CCB) Eagle Nest Locator to determine if any active eagle nests are known from the project area to ensure protection of bald eagles in compliance with the Bald and Golden Eagle Act. If active bald eagle nests have been documented from the project area, conduct project activities in a manner consistent with state and federal guidelines for protection of bald eagles; and coordinate, as indicated, with the U.S. Fish and Wildlife Service regarding possible impacts upon bald eagles or the need for a federal bald eagle take permit.

(iii) General Protection of Wildlife Resources

DGIF offers the following recommendations to minimize the adverse impacts of the project development on wildlife resources:

- Adhere to the currently approved Integrated Natural Resources Management Plan for Fort AP Hill.
- Avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable.
- Maintain undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams.
- Maintain wooded lots to the fullest extent possible.
- Adhere to a time-of-year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year for all tree removal and ground clearing.
- Adhere to erosion and sediment controls during ground disturbance.
- Use matting made from natural/organic materials such as coir fiber, jute, and/or bur-lap to minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting.
- Design stormwater controls to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

DGIF generally does not support proposals to mitigate wetland impacts through the construction of stormwater management ponds, nor does it support the creation of in-stream stormwater management ponds.

11. Public Water Supply. According to the EA (page 3-15), drinking water is provided by groundwater wells. Production and distribution of potable water is provided by American Water. Wastewater services are also provided by American Water.

11(a) Agency Jurisdiction. Virginia Department of Health (VDH) Office of Drinking Water (ODW) reviews projects for the potential to impact public drinking water sources (groundwater wells, springs and surface water intakes). VDH administers both federal and state laws governing waterworks operation.

11(b) Agency Findings. VDH-ODW finds that there are four public groundwater wells within a 1-mile radius of the project site at AP Hill, including Well PWAT 34 Long Street, Well PWAT 36-Arena #1, Well PWAT 36-Arena #2, and Well PWAT 39-Davis #2.

There are no surface water intakes located within a 5-mile radius of the project area and the project is not within the watershed of any public surface water intakes.

11(c) Requirement. Potential impacts to public water and wastewater distribution systems must be verified by the local utility.

11(d) Recommendation. VDH-ODW recommends that Best Management Practices (BMPs) should be employed on the project site including erosion and sediment controls and Spill Prevention Controls and Countermeasures (SPCCs).

For additional information, contact VDH-ODW, Arlene Fields Warren at (804) 864-7781 or arlene.warren@vdh.virginia.gov.

12. Local Review.

12(a) Agency Jurisdiction. In accordance with CFR 930, Subpart A, § 930.6(b) of the Federal Consistency Regulations, DEQ, on behalf of the state, is responsible for securing necessary review and comment from other state agencies, the public, regional government agencies, and local government agencies, in determining the Commonwealth's concurrence or objection to a federal consistency certification.

12(b) Agency Findings. The Caroline County Department of Planning and Community Development (DPCD) has no objection to the Proposed Action at Fort A.P. Hill.

For additional information, contact the Caroline County DPCD, Michael Finchum at (804) 633-4303 or mfinchum@co.caroline.va.us.

13. Pollution Prevention. DEQ advocates that principles of pollution prevention and sustainability be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices will help to ensure that environmental impacts are minimized. However, pollution prevention and sustainability techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

13(a) Recommendations. We have several pollution prevention recommendations that may be helpful in constructing or operating this facility:

- Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the proposed facility is committed to complying with environmental regulations, reducing risk, minimizing environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program (VEEP). VEEP provides recognition, annual permit fee discounts, and the possibility for

alternative compliance methods.

- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts.
- Consider energy efficiency when choosing materials and products, like insulation, fixtures, and HVAC systems.
- Consider contractors' commitment to the environment when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable materials and practices for building construction and design.
- Integrate pollution prevention techniques into the facility maintenance and operation, to include inventory control for centralized storage of hazardous materials. Maintenance facilities should have sufficient and suitable space to allow for effective inventory control and preventive maintenance.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. If interested, please contact Meghann Quinn at (804) 698-4021 or meghann.quinn@deq.virginia.gov.

14. Energy Conservation. Facility structures should be planned and designed to comply with state and federal guidelines and industry standards for energy conservation and efficiency. For example, the energy efficiency of the structures can be enhanced by maximizing the use of the following:

- thermally-efficient building shell components (roof, wall, floor, windows and insulation);
- high-efficiency heating, ventilation, air conditioning systems; and
- high-efficiency lighting systems and daylighting techniques.

The Department of Mines, Minerals and Energy should be contacted, David Spears at (434) 951-6350 or david.spears@dmme.virginia.gov, for assistance in meeting this challenge.

15. Water Conservation. The following recommendations will result in reduced water use associated with the operation of the facility.

- Grounds should be landscaped with hardy native plant species to conserve water as well as lessen the need to use fertilizers and pesticides.
- Convert turf to low water-use landscaping such as drought resistant grass, plants, shrubs and trees.
- Low-flow toilets should be installed.
- Consider installing low flow restrictors and aerators to faucets.
- Improve irrigation practices by:
    - upgrading sprinkler clock; water at night, if possible, to reduce evapotranspiration (lawns need only 1 inch of water per week, and do not need to be watered daily; overwatering causes 85% of turf problems);

  - installing a rain shutoff device; and
  - collecting rainwater with a rain bucket or cistern system with drip lines.
- Check for and repair leaks (toilets and faucets) during regular routine maintenance activities.

REGULATORY AND COORDINATION NEEDS

1. Erosion and Sediment Control and Stormwater Management.

1(a) Erosion and Sediment Control and Stormwater Management. Construction activities must comply with Virginia's *Erosion and Sediment Control Law* (Virginia Code § 62.1-44.15:61) and *Regulations* (9 VAC 25-840-30 *et seq*.) and *Stormwater Management Law* (Virginia Code § 62.1-44.15:31) and *Regulations* (9 VAC 25-870-210 *et seq*.) as administered by DEQ in Virginia. Activities that disturb 2,500 square feet or more in CBPAs would be regulated by *VESCL&R* and *VSWML&R*. Erosion and sediment control and stormwater management requirements should be coordinated with the DEQ Northern Regional Office, Kelly Vanover at (804) 837-1073 or kelly.vanover@deq.virginia.gov.

1(b) General Permit for Stormwater Discharges from Construction Activities (VAR10). For land-disturbing activities of equal to or greater than one acre, the applicant is required to apply for registration coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880-1 *et seq.*). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ, Holly Sepety at (804) 698-4039 or holly.sepety@deq.virginia.gov.

2. Air Pollution Control. Guidance on minimizing the emission of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) during construction may be obtained from DEQ-NRO. Activities associated with this project may be subject to air regulations administered by DEQ. The state air pollution regulations that may apply to the construction phase of the project are:

- fugitive dust and emissions control (9 VAC 5-50-60 *et seq*.);
- open burning restrictions (9 VAC 5-130);
- fuel-burning equipment (9 VAC 5-80 *et seq*.).

The applicant should contact the appropriate local fire officials for information on any local requirements pertaining to open burning. For more information, contact DEQ-NRO, James LaFratta at (703) 583-3928 or james.lafratta@deq.virginia.gov.

3. Floodplain Management. The development activities must comply with Prince William County's local floodplain ordinance. For additional information and coordination, contact Caroline County, Mike Finchum at (804) 633-4303 or mfinchum@co.caroline.va.us.

4. Solid and Hazardous Wastes.

4(a) Solid and Hazardous Waste Management Regulations. All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. For additional information concerning location and availability of suitable waste management facilities in the project area or if free product, discolored soils, or other evidence of contaminated soils are encountered, contact DEQ-NRO, Richard Doucette at (703) 583-3813 or richard.doucette@deq.virginia.gov.

5. Natural Heritage Resources.

(i) Ecological Cores

A discussion of fragmentation impacts on ecological cores, including a fragmentation analysis to estimate direct impacts to cores and habitat fragments and indirect impacts to cores, may be initiated with the DCR Natural Heritage Information Manager, Joe Weber at joseph.weber@dcr.virginia.gov.

(ii) Updated Natural Heritage Resource Information

Contact DCR-DNH, Rene Hypes at (804) 371-2708 or rene.hypes@dcr.virginia.gov, to secure updated information on natural heritage resources if the scope of the project changes and/or six months has passed before it is utilized, since new and updated information is continually added to the Biotics Data System.

6. Wildlife Resources and Protected Species.

6(a) Bald Eagles. To ensure compliance with the Bald and Golden Eagle Act, coordinate, as necessary, with the U.S. Fish and Wildlife Service Virginia Field Office, Troy Andersen at (804) 654-9235 or troy.andersen@fws.gov, regarding possible impacts upon bald eagles or the need for a federal bald eagle take permit.

6(b) Wildlife Protection. Contact DGIF, Amy Ewing at (804) 367-2211 or amy.ewing@dgif.virginia.gov, on recommendations for the general protection of wildlife resources associated with construction.

Thank you for the opportunity to review and respond to the Amended Environmental Assessment for the Equipment Concentration Site in Caroline County. Detailed comments of reviewing agencies are attached for your review. DEQ will respond to the FCD included in the EA (Appendix C) following the end of the public comment period on May 11, 2020. Please contact me at (804) 698-4204 or John Fisher at (804) 698-4339 for clarification of these comments.

Sincerely,

Bettina Rayfield, Program Manager
Environmental Impact Review and Long-Range Priorities

Enclosures

Ec: Amy Ewing, DGIF
Robbie Rhur, DCR
Randy Owen, VMRC
Roger Kirchen, DHR
Arlene Fields Warren, VDH
Charles Culley, Caroline County
Linda Millsaps, GWRC

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: John Fisher

We thank **OEIR** for providing DEQ-AIR an opportunity to review the following project:

Document Type: Environmental Assessment
Project Sponsor: Department of Defense/Department of the Army
Project Title: Equipment Concentration Site Amendment
Location: Caroline County
Project Number: DEQ #20-043F

Accordingly, I am providing following comments for consideration.

PROJECT LOCATION: **X OZONE ATTAINMENT AREA**

REGULATORY REQUIREMENTSMAY BE APPLICABLE TO: **X CONSTRUCTION**
☐ OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2. ☐ 9 VAC 5-45-760 et seq. – Asphalt Paving operations
3. **X** **9 VAC 5-130 et seq. – Open Burning**
4. **X** **9 VAC 5-50-60 et seq. Fugitive Dust Emissions**
5. ☐ 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to_____
6. ☐ 9 VAC 5-60-300 et seq. – Standards of Performance for Toxic Pollutants
7. ☐ 9 VAC 5-50-400 Subpart____, Standards of Performance for New Stationary Sources, designates standards of performance for the_____
8. ☐ 9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
9. ☐ 9 VAC 5-80-1605 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
10. ☐ 9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
11. ☐ 9 VAC 5-80-800 et seq. Of the regulations – State Operating Permits. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:

(Kotur S. Narasimhan)
Office of Air Data Analysis **DATE: April 9, 2020**

MEMORANDUM

TO: John Fisher, DEQ/EIR Environmental Program Planner

FROM: Carlos A. Martinez, Division of Land Protection & Revitalization Review Coordinator

DATE: April 20, 2020

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: Environmental Impact Review: 20-043F Equipment Concentration Site Amendment in Bowling Green, Virginia.

The Division of Land Protection & Revitalization (DLPR) has completed its review of the Department of Defense/ Department of the Army's April 3, 2020 EIR Equipment Concentration Site Amendment in Bowling Green, Virginia.

DLPR staff conducted a search (500 ft. radius) of the project area of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project area. DLPR search did not identify any waste sites within the project area which might impact the project.

DLPR staff has reviewed the submittal and offers the following comments:

***Hazardous Waste/RCRA Facilities* – none in close proximity to the project area**

***CERCLA Sites* – none in close proximity to the project area**

***Formerly Used Defense Sites (FUDS)* – none in close proximity to the project area.**

***Solid Waste* – none in close proximity to the project area**

***Virginia Remediation Program (VRP)* – none in close proximity to the project area**

***Petroleum Releases* – none in close proximity to the project area**

PROJECT SPECIFIC COMMENTS

None

GENERAL COMMENTS

Soil, Sediment, Groundwater, and Waste Management

Any soil, sediment or groundwater that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Carlos A. Martinez by phone at (804) 698-4575 or email carlos.martinez@deq.virginia.gov.

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

Re: NEW PROJECT ARMY Equipment Concentration Site Amendment, DEQ #20-043F

1 message

Holland, Benjamin <benjamin.holland@deq.virginia.gov> Mon, Apr 6, 2020 at 9:19 AM
To: John Fisher <John.Fisher@deq.virginia.gov>

John - no further specific comments on the project amendment.

Northern Regional Office comments regarding the Environmental Assessment for *Equipment Concentration Site Amendment, DEQ #20-043F*, are as follows:

Land Protection Division – The project manager is reminded that if any solid or hazardous waste is generated/encountered during construction, the project manager would follow applicable federal, state, and local regulations for their disposal.

Air Compliance/Permitting - The project manager is reminded that during the construction phases that occur with this project; the project is subject to the Fugitive Dust/Fugitive Emissions Rule 9 VAC 5-50-60 through 9 VAC 5-50-120. In addition, should any open burning or use of special incineration devices be employed in the disposal of land clearing debris during demolition and construction, the operation would be subject to the Open Burning Regulation 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100.

Virginia Water Protection Permit (VWPP) Program – The project manager is reminded that a VWP permit from DEQ may be required should impacts to surface waters be necessary. DEQ VWP staff recommends that the avoidance and minimization of surface water impacts to the maximum extent practicable as well as coordination with the US Army Corps of Engineers. Upon receipt of a Joint Permit Application for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and current VWP permit program guidance. VWPP staff reserve the right to provide comment upon receipt of a permit application requesting authorization to impact state surface waters, and at such time that a wetland delineation has been conducted and associated jurisdiction determination made by the U.S. Army Corps of Engineers.

Erosion and Sediment Control and Storm Water Management – DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Consideration should also be given to using permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. For any land disturbing activities equal to one acre or more, you are required to apply for coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. The Virginia Stormwater Management Permit Authority may be DEQ or the locality.

On Fri, Apr 3, 2020 at 11:50 AM Fulcher, Valerie <valerie.fulcher@deq.virginia.gov> wrote:

> **Good morning - this is a new OEIR review request/project:**
>
> **Document Type: Environmental Assessment**

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

Re: NEW PROJECT ARMY Equipment Concentration Site Amendment, DEQ #20-043F

1 message

Gavan, Lawrence <larry.gavan@deq.virginia.gov> Mon, Apr 6, 2020 at 10:48 AM
To: "Fisher, John" <john.fisher@deq.virginia.gov>

(a) Agency Jurisdiction. The Department of Environmental Quality (DEQ) administers the *Virginia Erosion and Sediment Control Law and Regulations* (*VESCL&R*) and *Virginia Stormwater Management Law and Regulations* (*VSWML&R*).

(b) Erosion and Sediment Control and Stormwater Management Plans. The Applicant and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with *VESCL&R* and *VSWML&R*, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 10,000 square feet (2,500 square feet in Chesapeake Bay Preservation Area) would be regulated by *VESCL&R*. Accordingly, the Applicant must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. Land-disturbing activities that result in the total land disturbance of equal to or greater than 1 acre (2,500 square feet in Chesapeake Bay Preservation Area) would be regulated by *VSWML&R*. Accordingly, the Applicant must prepare and implement a Stormwater Management (SWM) plan to ensure compliance with state law and regulations. The ESC/SWM plan is submitted to the DEQ Regional Office that serves the area where the project is located for review for compliance. The Applicant is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: VESCL 62.1-44.15 et seq.]

(c) General Permit for Stormwater Discharges from Construction Activities (VAR10). DEQ is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land disturbing activities under the Virginia Stormwater Management Program.

The owner or operator of projects involving land-disturbing activities of equal to or greater than 1 acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific Stormwater Pollution Prevention Plan. Construction activities requiring registration also include land disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan of development will collectively disturb equal to or greater than one acre The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the *VSMP Permit Regulations*. General information and registration forms for the General Permit are available at: http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 1111 East Main Street, Suite 1400, Richmond, VA 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

MEMORANDUM

TO: John Fisher, DEQ Office of Environmental Impact Review

FROM: Daniel Moore, DEQ Principal Environmental Planner

DATE: April 23, 2020

SUBJECT: DEQ #20-043F: US Department of Army: Fort AP Hill – Equipment Concentration Site Amendment, Caroline County

We have reviewed the Environmental Assessment (EA) for the above project and offer the following comments regarding consistency with the provisions of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (Regulations).

In Caroline County, the areas protected by the Chesapeake Bay Preservation Act (CBPA), as locally implemented, require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local governments. RPAs include tidal wetlands, certain non-tidal wetlands, and tidal shores. RPAs also include a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow. RMAs in Caroline County, which require less stringent performance criteria than RPAs, include floodplains, highly erodible soils (including steep slopes), highly permeable soils, and non-tidal wetlands not included in the RPA.

Based on review of the submitted EA, the 41-acre project site does not include RPA or RMA lands. Therefore, the project is not subject to the Chesapeake Bay Preservation Act or Regulations.

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

ESSLog#40524_20-043F_ECSFtAPHill_DGIF_AME20200420

1 message

Ewing, Amy <amy.ewing@dgif.virginia.gov> Mon, Apr 20, 2020 at 3:29 PM
To: John Fisher <john.fisher@deq.virginia.gov>

John,
We have reviewed the subject project that proposes to construct a new facility at Ft. AP Hill in Caroline County. We document state Endangered Little Brown Bats and state Endangered Tri-colored Bats from the project area. To best protect roosting bats from harm associated with tree clearing, we recommend that such activities adhere to a time of year restriction from April 1 through October 31 of any year.

To minimize overall impacts to wildlife and our natural resources, we offer the following comments about development activities: We recommend that the applicant avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable. We recommend maintaining undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. We recommend maintaining wooded lots to the fullest extent possible. We generally do not support proposals to mitigate wetland impacts through the construction of stormwater management ponds, nor do we support the creation of in-stream stormwater management ponds.

We recommend that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

We recommend that all tree removal and ground clearing adhere to a time of year restriction (TOYR) protective of resident and migratory songbird nesting from March 15 through August 15 of any year.

We recommend adherence to erosion and sediment controls during ground disturbance. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap.

This project site is located within close proximity of historic and/or active bald eagle nests. To ensure protection of bald eagles in compliance with the Bald and Golden Eagle Act, we recommend using the Center for Conservation Biology (CCB) Eagle Nest Locator to determine if any active eagle nests are known from the project area. If active bald eagle nests have been documented from the project area, we recommend that the project move forward in a manner consistent with state and federal guidelines for protection of bald eagles; and coordination, as indicated, with the U.S. Fish and Wildlife Service regarding possible impacts upon bald eagles or the need for a federal bald eagle take permit.

We recommend adherence to the currently approved Integrated Natural Resources Management Plan for Ft. AP Hill.

Assuming adherence to erosion and sediment controls, we find this project consistent with the Fisheries Management Section of the CZMA.

Thanks, Amy

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

Re: NEW PROJECT ARMY Equipment Concentration Site Amendment, DEQ #20-043F

1 message

Warren, Arlene <arlene.warren@vdh.virginia.gov> Mon, Apr 6, 2020 at 8:22 AM
To: John Fisher <john.fisher@deq.virginia.gov>
Cc: rr Environmental Impact Review <eir@deq.virginia.gov>

Project Name: ARMY Equipment Concentra on Site Amendment
Project #: 20-043 F
UPC #: N/A
Loca on: Caroline Co.
VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Poten al impacts on public water distribu on systems or sanitary sewage collec on systems **must be verified by the local u lity.**

The following public groundwater wells are located within a 1-mile radius of the project site:

PWS ID Number	City/County	System Name	Facility Name
6033256	CAROLINE	FT A P HILL - CENTRAL CAMPSITE	WELL - LONGSTREET #1 (PWAT 34)
6033256	CAROLINE	FT A P HILL - CENTRAL CAMPSITE	WELL - ARENA #1 (PWAT 36)
6033256	CAROLINE	FT A P HILL - CENTRAL CAMPSITE	WELL - ARENA #2 (PWAT 37A)
*6033256	*CAROLINE*	*FT A P HILL - CENTRAL CAMPSITE*	*WELL - DAVIS #2 (PWAT 39)*

There are no surface water intakes located within a 5-mile radius of the project site.

The project is not within the watershed of any public surface water intakes.

> ****Well is right near the project line drawn, this is why it is included. Otherwise, our comments have not changed.*

Best Management Prac ces should be employed, including Erosion & Sedimenta on Controls and Spill Preven on Controls & Countermeasures on the project site.

Virginia Department of Health – Office of Drinking Water appreciates the opportunity to provide comments. If you have any ques ons, please let me know.

Best Regards,

Arlene Fields Warren

GIS Program Support Technician

Office of Drinking Water

Virginia Department of Health

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

NEW PROJECT ARMY Equipment Concentration Site Amendment, DEQ #20-043F

1 message

mfinchum@co.caroline.va.us <mfinchum@co.caroline.va.us> Fri, Apr 3, 2020 at 1:07 PM
To: John.Fisher@deq.virginia.gov
Cc: cculley@co.caroline.va.us, apartin@co.caroline.va.us

Good a ernoon Mr. Fisher,

Please be advised that this department has no objecon t o the above referenced amendment at Fort AP Hill.

Michael A. Finchum

Director of Planning & Community Development

P.O. Box 424

233 West Broaddus Avenue

Bowling Green, Virginia 22427

Tel: 804.633.4303

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

Russell W. Baxter
Deputy Director of Dam Safety & Floodplain Management and Soil & Water Conservation

Thomas L. Smith
Deputy Director of Operations

MEMORANDUM

DATE: April 20, 2020

TO: John Fisher, DEQ

FROM: Roberta Rhur, Environmental Impact Review Coordinator

SUBJECT: DEQ 20-043F, Fort A.P. Hill-U.S Army Reserve Military Construction Project

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Mill Creek Slopes Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Mill Creek Slopes Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

Coastal Plain/Piedmont Acidic Seepage Swamp Acer rubrum – Nyssa sylvatica – Magnolia virginiana – Viburnum nudum – Osmunda cinnamomea – Woodwardia areolata Forest	G3?/S3/NL/NL

The Coastal Plain / Outer Piedmont Acidic Seepage Swamp is an acidic groundwater saturated swamp forest that ranges from southeastern New York and New Jersey to southeastern Virginia, primarily on the Coastal Plain. In Virginia, it occurs mostly in the inner (western) portion of the Coastal Plain and the extreme eastern portion of the Piedmont. This community occurs in nutrient-poor soils in stream headwaters, where abundant groundwater is discharged in springs and seeps. The soil typically consists of muck or shallow peat over sandy mineral soil, with Sphagnum-covered hummocks and pools of standing water also present. The vegetation is a closed-canopy forest with red maple (*Acer rubrum*) and black gum (*Nyssa sylvatica*) typically dominant. Characteristic understory trees and shrubs include sweetbay magnolia (*Magnolia virginiana*), possum-haw (*Viburnum nudum*), and sweet pepperbush (*Clethra alnifolia*). The herbaceous flora is usually rich in sedges and ferns, especially cinnamon fern (*Osmunda cinnamomea*)

and netted chain fern (*Woodwardia areolata*). Skunk-cabbage (*Symplocarpus foetidus*) forms large colonies early the growing season in many stands. This uncommon wetland habitat is vulnerable to alteration or destruction by beavers and various anthropogenic activities including hydrologic modifications (NatureServe, 2010).

To minimize adverse impacts to the Coastal Plain/Piedmont Acidic Seepage Swamp as a result of the proposed activities, DCR recommends avoiding development within 100 meters of the natural heritage resource (Figure 1). DCR also recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations.

In addition, the proposed project will fragment an Ecological Core C2 as identified in the Virginia Natural Landscape Assessment (https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection.

Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Cores also provide benefits in terms of open space, recreation, water quality (including drinking water protection and erosion prevention), and air quality (including carbon sequestration and oxygen production), along with the many associated economic benefits of these functions. The cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using many prioritization criteria, such as the proportions of sensitive habitats of natural heritage resources they contain.

Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species.

Therefore minimizing fragmentation is a key mitigation measure that will reduce deleterious effects and preserve the natural patterns and connectivity of habitats that are key components of biodiversity. DCR recommends efforts to minimize edge in remaining fragments, retain natural corridors that allow movement between fragments and designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns). Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: http://vanhde.org/content/map.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov.

Division of Dam Safety & Floodplain Management

Floodplain Management Program:

The National Flood Insurance Program (NFIP) is administered by the Federal Emergency Management Agency (FEMA), and communities who elect to participate in this voluntary program manage and enforce the program on the local level through that community's local floodplain ordinance. Each local floodplain ordinance must comply with the minimum standards of the NFIP, outlined in 44 CFR 60.3; however, local communities may adopt more restrictive requirements in their local floodplain ordinance, such as regulating the 0.2% annual chance flood zone (Shaded X Zone).

All development within a Special Flood Hazard Area (SFHA), as shown on the locality's Flood Insurance Rate Map (FIRM), must be permitted and comply with the requirements of the local floodplain ordinance.

State Agency Projects Only

Executive Order 45, signed by Governor Northam and effective on November 15, 2019, establishes mandatory standards for development of state-owned properties in Flood-Prone Areas, which include Special Flood Hazard Areas, Shaded X Zones, and the Sea Level Rise Inundation Area. These standards shall apply to all state agencies.

1. Development in Special Flood Hazard Areas and Shaded X Zones
    A. All development, including buildings, on state-owned property shall comply with the locally-adopted floodplain management ordinance of the community in which the state-owned property is located and any flood-related standards identified in the Virginia Uniform Statewide Building Code.
    B. If any state-owned property is located in a community that does not participate in the NFIP, all development, including buildings, on such state-owned property shall comply with the NFIP requirements as defined in 44 CFR §§ 60.3, 60.4, and 60.5 and any flood-related standards identified in the Virginia Uniform Statewide Building Code.
        (1) These projects shall be submitted to the Department of General Services (DGS), for review and approval.
        (2) DGS shall not approve any project until the State NFIP Coordinator has reviewed and approved the application for NFIP compliance.
        (3) DGS shall provide a written determination on project requests to the applicant and the State NFIP Coordinator. The State NFIP Coordinator shall maintain all documentation associated with the project in perpetuity.
    C. No new state-owned buildings, or buildings constructed on state-owned property, shall be constructed, reconstructed, purchased, or acquired by the Commonwealth within a Special Flood Hazard Area or Shaded X Zone in any community unless a variance is granted by the Director of DGS, as outlined in this Order.

The following definitions are from Executive Order 45:

Development for NFIP purposes is defined in 44 CFR § 59.1 as "Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials."

The Special Flood Hazard Area may also be referred to as the 1% annual chance floodplain or the 100-year floodplain, as identified on the effective Flood Insurance Rate Map and Flood Insurance Study. This includes the following flood zones: A, AO, AH, AE, A99, AR, AR/AE, AR/AO, AR/AH, AR/A, VO, VE, or V.

The Shaded X Zone may also be referred to as the 0.2% annual chance floodplain or the 500- year floodplain, as identified on the effective Flood Insurance Rate Map and Flood Insurance Study.

The Sea Level Rise Inundation Area referenced in this Order shall be mapped based on the National Oceanic and Atmospheric Administration Intermediate-High scenario curve for 2100, last updated in 2017, and is intended to denote the maximum inland boundary of anticipated sea level rise.

"State agency" shall mean all entities in the executive branch, including agencies, offices, authorities, commissions, departments, and all institutions of higher education.

"Reconstructed" means a building that has been substantially damaged or substantially improved, as defined by the NFIP and the Virginia Uniform Statewide Building Code.

Federal Agency Projects Only

Projects conducted by federal agencies within the SFHA must comply with federal Executive Order 11988: Floodplain Management.

DCR's Floodplain Management Program does not have regulatory authority for projects in the SFHA. The applicant/developer must reach out to the local floodplain administrator for an official floodplain determination and comply with the community's local floodplain ordinance, including receiving a local permit. Failure to comply with the local floodplain ordinance could result in enforcement action from the locality. For state projects, DCR recommends that compliance documentation be provided prior to the project being funded. For federal projects, the applicant/developer is encouraged reach out to the local floodplain administrator and comply with the community's local floodplain ordinance.

To find flood zone information, use the Virginia Flood Risk Information System (VFRIS): www.dcr.virginia.gov/vfris

To find community NFIP participation and local floodplain administrator contact information, use DCR's Local Floodplain Management Directory: www.dcr.virginia.gov/dam-safety-and-floodplains/floodplain-directory

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

Figure 1. Buffered Significant Natural Community and Project Site

COMMONWEALTH of VIRGINIA

Department of Historic Resources

Matt Strickler
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

Tel: (804) 367-2323
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www.dhr.virginia.gov

MEMORANDUM

DATE: 8 June 2020 **DHR File #** 2016-3929

TO: Mr. John Mullin
Army

FROM: Marc E. Holma, Architectural Historian (804) 482-6090
Office of Review and Compliance

PROJECT: Equipment Concentration Site
Fort A.P. Hill

____ This project will have an effect on historic resources. Based on the information provided, the effect will not be adverse.

____ This project will have an adverse effect on historic properties. Further consultation with DHR is needed under Section 106 of the NHPA.

___ Additional information is needed before we will be able to determine the effect of the project on historic resources. **Please see below.**

__X__ No further identification efforts are warranted. No historic properties will be affected by the project. Should unidentified historic properties be discovered during implementation of the project, please notify DHR.

____ We have previously reviewed this project. Attached is a copy of our correspondence.

___ Other (Please see comments below)

COMMENTS:

Administrative Services
10 Courthouse Ave.
Petersburg, VA 23803
Tel: (804) 862-6408
Fax: (804) 862-6196

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Northern Region Office
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Stephens City, VA 22655
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Appendix C
Coastal Consistency Determination

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Coastal Zone Management Act Consistency Determination – Fort A.P. Hill

This document provides the Commonwealth of Virginia with Fort A.P. Hill's Consistency Determination under Coastal Zone Management Act, Section 307(c)(1) and 15 *Code of Federal Regulations* (CFR) Part 930, subpart C, for the construction and operation of an equipment concentration site (ECS) at Fort A.P. Hill (FAPH), Caroline County, Virginia. The information in this Consistency Determination is provided pursuant to 15 CFR 930.39.

FAPH has prepared an Amendment to the 2017 *Final Environmental Assessment Equipment Concentration Site U.S. Army Reserve Fort A.P. Hill, Virginia.* The Final Environmental Assessment (EA) was prepared and a finding of no significant impact (FNSI) was signed on March 5, 2017. In a January 12, 2017 letter, the Virginia Department of Environmental Quality (VDEQ) concurred that the proposed project is consistent with the Virginia Coastal Zone Management (CZM) Program provided that it complies with all the applicable permits, approvals, and conditions of the enforceable policies of the Virginia CZM Program. In addition, VDEQ recommended that the U.S. Army Reserve (USAR) consider the project's impacts on the advisory policies of the Virginia CZM Program. A copy of the VDEQ letter is provided in Attachment 1.

The Final EA and FNSI (FAPH 2017) determined that there would be no significant impact resulting from the Preferred Alternative, and the USAR began constructing an ECS at FAPH in Caroline County, Virginia (Attachment 2, Figure 2-1). However, FAPH identified that the project shifted to the east during the final design and construction processes onto an approximately 10-acre parcel that was not covered under the EA. Construction is approximately 70 percent complete. The originally proposed footprint of the new ECS will remain the same, but it will be shifted east to include the 10-acre parcel. Therefore, the EA was amended to include the additional 10-acre parcel.

The Proposed Action consists of construction and operation of an ECS at FAPH, Virginia. The ECS would employ approximately 41 full-time civilian employees during the week. Construction is approximately 70 percent complete, and operation of the facility is anticipated to start after construction is completed. The ECS maintenance facility identified in the original EA is under construction in accordance with the modified tactical equipment maintenance facility (TEMF) standard.

Under the Preferred Alternative, the USAR would continue construction of the new ECS and operate the new ECS on approximately 41 acres of land (Project Area) northwest of the intersection of Shackleford Road and A.P. Hill Drive. The Project Area is wooded with a tank trail, Tator Trail, bisecting the site on a north/south line, and a concrete-vaulted latrine along the tank trail (Attachment 2, Figure 2-2). The concrete latrine building would be demolished as part

of the Preferred Alternative. No other structures are present within the Project Area. The entrance to the new ECS will be from Shackleford Road.

Stormwater management features will be constructed within the Project Area. Lighting will meet the FAPH dark skies technologies' requirements to prevent light pollution at night. The procedures in the FAPH Environmental Handbook, which outline personnel responsibilities, policies, and procedures, and guidance for managing environmental resources at FAPH, will be followed during construction and operation of the proposed ECS. A site figure is provided in Attachment 2, Figure 2-7.

Once completed, the ECS will include a 27,443-square-foot TEMF, a 55,000-square-foot general purpose warehouse, a bilevel equipment loading ramp, and parking areas for military equipment and privately owned vehicles. The Proposed Action includes construction of stormwater management features. The TEMF includes five drive-through work bays, administrative offices, locker rooms, toilets and showers, a classroom/break area, library, tool and parts room, welding shop, tire changing area, arms vault, and maintenance areas for in and out processing of military equipment. The warehouse includes space to store large items that need a climate-controlled environment. The design complies with the Leadership in Energy and Environmental Design Silver standard, feature low-impact development, and consider renewable energy initiatives.

Additional construction activities consist of paving, fencing, making general site improvements, and extending utilities to serve the new facilities. Some grading and leveling of land would be required on the site. Disturbed areas that are not within the footprint of the proposed buildings or parking areas will be landscaped and used to meet security setback requirements. Physical security measures or antiterrorism/force protection measures will be incorporated into the design. These would include setbacks from roads, parking areas, and vehicle unloading areas. Buildings will comply with the Americans with Disabilities Act.

Effects on Land, Water Uses, and Natural Resources of Virginia

FAPH has determined that the continued construction and operation of the new ECS at the Project Area would affect the land or water uses or natural resources of Virginia in the following manners.

Soils

The Preferred Alternative would have minor, direct, long-term, and permanent adverse impacts on soils as a result of construction of the new ECS. The Preferred Alternative would result in soil disturbance and compaction during site preparation and grading and during construction of building footings, access points, and parking areas. Construction and ground disturbance would take place on approximately 41 acres; all soils underlying the Project Area are classified as Kempsville-Emporia complex, 2 to 6 percent slopes (Attachment 2, Figure 2-3). Construction of the ECS would not be expected to have significant impacts on soils because proper erosion

control procedures and construction best management practices (BMPs) are in place to minimize impacts on soils. BMPs include installing silt fencing and sediment traps, applying water to disturbed soil, and revegetating disturbed areas as soon as possible after disturbance.

Floodplains

Implementation of the Preferred Alternative would not impact floodplains because The Project Area is not within a flood zone (Federal Emergency Management Agency 2009a and 2009b).

Surface Water, Wetlands, and Groundwater

FAPH is within the Chesapeake Bay watershed and, therefore, must comply with the Chesapeake Bay Act. Caroline County is in Virginia's Coastal Zone Management Area (VDEQ 2016). The Project Area is within the Lower Rappahannock River Watershed (Hydrologic Unit Code 02080104; FAPH 2016). A wetland delineation was conducted within the Project Area, including the additional 10-acre parcel analyzed in the Amended EA, on May 23 and 24, 2016. No surface waters or wetlands were identified within the Project Area (Attachment 2, Figure 2-4). The Project Area is on the topographic divide between the Mill Creek watershed and the Turkey Track Creek watershed. During the wetland delineation, forested shrub wetlands, associated with a tributary to Mill Creek, were identified to the east of the Project Area; a pond and emergent wetlands associated with a tributary to Turkey Track Creek were identified to the west of the Project Area. Portions of Mill Creek are listed as impaired for the aquatic life use because pH values are not in the recommended range. Portions of the creek are also designated as impaired recreational use because of the presence of *E. coli* bacteria (FAPH 2016).

Under natural, undisturbed conditions, shallow groundwater flow generally follows the topography of the land surface (Attachment 2, Figure 2-5). On this basis, the topography suggests that groundwater movement across the western portions of the Project Area is toward the pond located along the western boundary, while groundwater flow in the eastern portions of the Project Area is expected to flow east and northeast, in the direction of a tributary of Mill Creek (XCEL Engineering, Inc. 2016). Groundwater flow is affected by seasonal variations, nearby pumping wells, and/or other hydrologic influences; therefore, the presumed flow may not coincide with the actual flow in the subject area. Shallow groundwater at the Project Area is expected to be encountered at approximately 5 to 20 feet below ground surface (XCEL Engineering, Inc. 2016).

The Preferred Alternative would not result in direct impacts on surface waters or wetlands because none are present within the Project Area. The Preferred Alternative could result in short-term, minor, adverse, indirect impacts on surface water quality during construction. Impacts on surface water quality could occur when soil particles in disturbed soils are transported through stormwater to receiving waters. An erosion and sediment control plan (ESCP) and stormwater management plan will be required under the Preferred Alternative. Before construction began at the Project Area, the contractor developed and submitted the plans to VDEQ for review and approval. VDEQ issued a Virginia Stormwater Management Program (VSMP) permit to the contractor. The contractor implemented and will continue to

maintain the approved ESCP and stormwater pollution prevention plan for the duration of the project. Toward the end of the construction project's schedule, the stormwater management plan will be implemented.

The Preferred Alternative could result in long-term, minor, adverse, indirect impacts on surface water quality during operation of the ECS. Impacts on surface water quality could occur because a potential increase in stormwater runoff would result from an increase in impervious surface area. These impacts would be minimal because the USAR would comply with requirements of Section 438 of the Energy Independence and Security Act of 2007 and of the National Pollutant Discharge Elimination System to limit the potential impacts from development of the Project Area. Strategies to reduce stormwater runoff could include green infrastructure and low-impact development practices, such as reducing impervious surfaces, using vegetative practices, or providing porous pavements, cisterns, or green roofs. Oil-water separators will be installed in areas where vehicle maintenance or vehicle washing would occur. This facility will be included the Installation's integrated discharge prevention and contingency plan.

Implementation of the Preferred Alternative would result in a long-term, minor, direct, adverse impact on local groundwater supply because groundwater would be used as a drinking water supply. The proposed ECS would be connected to the existing water distribution system, which is supplied by a groundwater source. This facility will be included the Installation's integrated discharge prevention and contingency plan to protect groundwater quality.

The Preferred Alternative could result in short-term, minor, direct, adverse impacts on groundwater if shallow groundwater is encountered during demolition of the latrine and construction activities. There would be a potential to temporarily impact groundwater from the suspension of sediments during excavation activities. If groundwater comes in contact with construction equipment and is exposed to oils on the equipment, there is potential for the shallow groundwater to be impacted. Shallow groundwater depths can fluctuate throughout the year, especially during spring when snow is melting and rains are heavy. Excavations deeper than 4 feet will be avoided during these times. If groundwater were to be encountered during construction activities, then activities would stop or, as needed, the water would be pumped out of the excavation area and treated and released, following the requirements of the National Pollutant Discharge Elimination System stormwater construction permit.

Vegetation and Wildlife

The Project Area is a homogenous mature oak/pine forest. Dominant tree species within the Project Area include southern red oak (*Quercus falcata*), blackjack oak (*Quercus marilandica*), willow oak (*Quercus phellos*), loblolly pine (*Pinus taeda*), Virginia pine (*Pinus virginiana*), and tulip tree (*Liriodendron tulipifera*). Shrubs include Japanese honeysuckle (*Lonicera japonica*), hillside blueberry (*Vaccinium pallidum*), and southern dwarf huckleberry (*Gaylussacia dumosa*). Vines include poison ivy (*Toxicodendron radicans*), common greenbriar (*Smilax rotundifolia*), whiteleaf greenbriar (*Smilax glauca*), trumpet creeper (*Campsis radicans*), and Virginia creeper (*Parthenocissus quinquefolia*).

The Project Area includes forested habitat that could support a variety of wildlife. Animals noticed by visual identification, listening, and observation of tracks and scat included eastern hognose snake (*Heterodon platirhinos*), eastern ratsnake (*Pantherophis alleghaniensis*), white-tailed deer (*Odocoileus virginianus*), pileated woodpecker (*Dryocopus pileatus*), fox (*Vulpes vulpes*), red bat (*Lasiurus borealis*), big brown bats (*Eptesicus fuscus*), evening bats (*Nycticeius humeralis*), turtles, frogs, lizards, and a variety of birds and insects. The Project Area provides forested areas that are suitable for nesting and foraging habitat for birds regulated by the Migratory Bird Treaty Act (MBTA). FAPH maintains records of bald eagle nests that occur on the Base. None are known to occur within the Project Area. None were observed during biological surveys that were conducted in May and June 2016 to support the development of the original EA.

The Preferred Alternative would result in minor, direct, long-term, permanent, adverse impacts on vegetation at The Project Area. Approximately 41 acres would be converted from wooded and grassy areas to developed and/or landscaped areas. Impacts from the loss of 41 acres of forest would not be significant when compared to the existing 65,000 acres of forests at FAPH (FAPH 2016). The loss of the wooded area would not negatively affect the regional population of plant species. Noxious weeds and invasive plants would be controlled through landscape maintenance. FAPH controls pest problems through the implementation of an integrated pest management plan (FAPH 2016).

The Preferred Alternative would result in minor, direct and indirect, long-term, and permanent adverse impacts on wildlife. Direct impacts could occur if wildlife were accidentally killed during construction. Indirect impacts would occur from habitat loss following conversion of approximately 41 acres of wooded and grassy areas to developed and landscaped areas.

Implementing the Preferred Alternative would not affect nesting migratory birds that are protected under the MBTA. No initial site clearing occurred during the nesting season (April 15 through July 1) (Brown 2016) without first conducting a preconstruction survey for nesting migratory birds. However, the Preferred Alternative would result in minor, indirect, long-term, and permanent adverse impacts on migratory bird nesting and foraging habitat from the conversion of wooded and grassy areas to developed and landscaped areas. The landscaped areas could provide nesting and foraging habitat for certain bird species.

Threatened and Endangered Species

Four federally listed species could occur within the Project Area based on known occurrences of these species elsewhere on FAPH. Table 1 lists these species.

CH2M Hill, Inc. conducted field surveys within the Project Area, including the 10-acre parcel analyzed in the Amended EA, on June 1, 2016, to determine the presence or absence of federally listed plants that could occur. Field surveys for plants were conducted within the Project Area and in the areas immediately surrounding the Project Area. Habitat for the swamp pink was not present within the Project Area; however, swamp pink is known to occur in the vicinity of the Project Area. The distance between the plants and the Project Area and

established riparian buffers would prevent the Preferred Alternative from impacting the offsite swamp pink.

Table 1. Federally Listed and Candidate Plants and Animals That Could Occur within the Project Area

Scientific Name	Common Name	Federal Status
Helonias bullata	Swamp pink	Threatened
Isotria medeoloides	Small whorled pogonia	Threatened
Myotis sodalis	Indiana bat	Endangered
Myotis septentrionalis	Northern long-eared bat	Threatened
Stygobromus kenki	Kenk's amphipod	Candidate

Habitat for the small whorled pogonia was present within the Project Area. The two listed plants species were not observed within or adjacent to the Project Area (CH2M 2016). Presence/ probability of absence surveys for Indiana bats and northern long-eared bats were conducted on June 9 and June 10, 2016. Negative acoustic survey results suggest that Indiana and northern long-eared bats are not likely using the project area during the summer months (Copperhead Environmental Consulting 2016).

Kenk's amphipod is a groundwater-dwelling amphipod that surfaces in seeps when groundwater rises and discharges. There are no groundwater seeps or wetlands within the Project Area, and groundwater and wetlands would not be impacted by the Preferred Alternative.

Two state-listed plant species could occur within the Project Area based on known occurrences of these species elsewhere on FAPH. Table 2 lists these species.

CH2M conducted field surveys on The Project Area on June 1, 2016, to determine the presence or absence of the two state-listed plants that could occur. Habitat for the New Jersey rush was not present within the Project Area. Habitat for ginseng was present within the Project Area. These two plant species were not observed within or adjacent to the Project Area (CH2M 2016). Little-brown bats were not detected during acoustic surveys conducted on June 9 and 10, 2016. Tri-colored bats were detected during acoustic surveys conducted on June 9 and 10, 2016. However, state conservation measures apply to known maternity roost trees and winter hibernaculum, which do not occur within the Project Area. Therefore, the Preferred Alternative is unlikely to impact tri-colored bats.

Table 2. State-Listed Plants and Animals That Could Occur within the Project Area

Scientific Name	Common Name	Federal Status
Juncus caesariensis	New Jersey rush	Threatened
Panax quinquefolius	Ginseng	Threatened
Myotis lucifugus	Little brown bat	Endangered
Perimyotis subflavus	Tri-colored bat	Endangered

In a response to an early scoping letter during development of the Final EA (FAPH 2017), the Virginia Department of Conservation and Recreation (VDCR) noted that an uncommon wetland habitat, the coastal plain/outer piedmont acidic seepage swamp, is located near the Project Area. In addition, the VDCR noted that the TA22B Mill Creek Tributary Stream Conservation Unit is downstream of the Project Area (Attachment 2, Figure 2-6). The VDCR indicated that a state rare dragonfly could occur near aquatic habitats in the piedmont and coastal regions. The distance between the Project Area and aquatic areas, as well as established riparian buffers on FAPH (Attachment 2, Figure 2-6), would prevent the Preferred Alternative from impacting offsite state rare aquatic resources.

Air Quality

The Project Area is in Caroline County, Virginia, which is an attainment area for all federal and state air quality standards (FAPH 2016). There is one structure currently located on Preferred Site (a concrete block latrine), which is not a source of air emissions. Sources of air emissions in the vicinity of the Project Area primarily consist of fuel combustion emissions from vehicular traffic on the surrounding roadways and fuel combustion emissions from stationary sources of nearby military facilities.

Implementation of the Preferred Alternative would result in minor, direct, short-term, adverse impacts on overall air quality from construction of the new facility. The operation of heavy construction equipment would increase exhaust emissions and generate dust and other construction-related particles in the air during the construction phase. Emissions from construction vehicles would be minimized by requirements in the construction specifications that the contractor keep equipment properly maintained and operating. During construction, the construction contractor would implement dust control measures. These control measures could include the application of water to areas of bare soil to reduce dust and particles in the air.

Implementation of the Preferred Alternative would result in minor, direct and long-term, adverse impacts on overall air quality from stationary source emissions associated with operation of the new ECS. Operation of the proposed facilities would include emissions associated with building operations, such as heating, ventilation, and air conditioning. No other new stationary sources of emissions are anticipated from the Preferred Alternative.

Implementation of the Preferred Alternative would result in minor, direct and long-term, beneficial impacts on overall air quality from mobile source emissions associated with operation

of the new ECS. Impacts would be beneficial because units would no longer need to drive to Fort Pickett to pick up the military equipment and then transport it to FAPH and back, reducing emissions from vehicles. In addition, compliance with the Leadership in Energy and Environmental Design Silver standard will reduce utility needs as compared to the existing World War II-era buildings being used at Fort Pickett.

Table 3 summarizes the projected total air emissions from the Preferred Alternative, from sources associated with the action. A copy of the calculations used to develop these estimates is provided in Attachment 3.

Table 3. Summary of Proposed Action Emissions*

Project Activities	Projected Annual Emissions (tons per year)						
	SO_2	**NO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**VOCs**	**HAPs**
Operational Sources							
Stationary Sources	0.005	0.85	0.66	0.065	0.065	0.047	0.016
Mobile Sources	0.006	0.6	4.24	0.07	0.033	0.12	0.009
Operational Sources Total	**0.01**	**1.44**	**4.91**	**0.13**	**0.10**	**0.17**	**0.025**
Construction Sources							
Construction Sources Total	**0.013**	**7.03**	**6.11**	**0.58**	**0.46**	**0.61**	**0.21**
PSD Thresholds	250	250	250	250	250	250	25
Nonattainment NSR Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A
General Conformity *de minimis* Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Activities	GHG Emissions (metric tons)			
	CO_2	**CH_4**	**N_2O**	**Total CO_2e**
Operational Sources	1,242	0.023	0.002	1,243
Construction Sources	1,010	0.082	0.012	1,016
GHG Thresholds	**25,000 tons CO_2e**			

* The projected emissions have been estimated using typical equipment for similar construction. Actual specifications of fuel usages, construction equipment, and vehicle mileage have been estimated based on similar projects.

CH_4 = methane; CO = carbon monoxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; HAP = hazardous air pollutant; N/A = not applicable; N_2O = nitrous oxide; NO_x = nitrogen oxide; NSR = New Source Review; $PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers in diameter; PM_{10} = particulate matter less than or equal to 10 micrometers in diameter; PSD = prevention of significant deterioration; SO_2 = sulfur dioxide; VOC = volatile organic compound

Based on the estimated emissions listed in Table 3, the emissions from the Preferred Alternative would be well below regulatory thresholds (also shown in Table 3). Therefore, the Preferred Alternative would not be subject to the U.S. Environmental Protection Agency's prevention of significant deterioration (PSD) or New Source Review (NSR) requirements. Because the area is a National Ambient Air Quality Standards (NAAQS) attainment area, the General Conformity Rule does not apply to the Preferred Alternative.

The Preferred Alternative would not have a significant impact on greenhouse gas (GHG) emissions because the operational and construction activities proposed at The Project Area are not expected to cause direct emissions of 25,000 metric tons of carbon dioxide equivalent (CO_2e) or more per year. The Preferred Alternative would result in a decrease in GHG emissions because the reduction in vehicular trips would result in a beneficial impacts on climate change.

Virginia Coastal Zone Management Program

Table 4 identifies the enforceable policies of the Virginia Coastal Zone Management Program and whether construction and operation of the new ECS on FAPH would be consistent with those policies. For enforceable policies that would not apply to the action, Table 4 provides the justification for the nonapplicable determination.

Table 4. Virginia Coastal Zone Management Program Enforcement Policies

Policy	Scope	Consistency
Fisheries Management (Virginia Code §28.2-200 through §28.2-713; §29.1- 100 through §29.1-570; and §3.1-249.59 through §3.1-249.62)	Policy stresses the conservation and enhancement of finfish and shellfish resources and fisheries to maximize food production and recreational opportunities. Administered by the Virginia Marine Resources Commission (VMRC), Virginia Department of Game and Inland fisheries, and Virginia Department of Agriculture and Consumer Services.	Not applicable to the Preferred Alternative because the Project Area does not contain finfish or shellfish resources or fisheries.
Subaqueous Lands Management (Virginia Code §28.2-1200 through §28.2-1213)	Code establishes conditions for granting or denying permits to use state-owned bottomlands. Administered by VMRC.	Not applicable to the Preferred Alternative because the Project Area does not contain state-owned bottomlands.
Wetlands Management (Virginia Code §28.2-1301 through §28.2-1320 and § 62.1-44.15.5; and §401 of the Clean Water Act)	Program promotes preservation of tidal wetlands. The tidal wetlands program is administered by VMRC. The Virginia Water Protection Permit program is administered by Virginia Department of Environmental Quality (VDEQ).	Not applicable to the Preferred Alternative because the Project Area does not contain tidal wetlands.
Dunes Management (Virginia Code §28.2-1400 through §28.2-1420)	Policy is intended to prevent destruction or alteration of primary dunes pursuant to the Coastal Primary Sand Dune Protection Act. The policy is administered by VMRC.	Not applicable to the Preferred Alternative because the Project Area does not contain dunes.
Nonpoint Source Pollution Control (Virginia Code §10.1-560 et. seq.)	Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by Virginia Department of Conservation and Recreation.	Caroline County, Fort A.P. Hill (FAPH), and the project site are subject to the Chesapeake Bay Preservation Act and regulations. There are no Resource Protection Areas or Resource Management Areas on the project. Because the land disturbance for this project is greater than 2,500 square feet, the project will comply with VDEQ's

Policy	Scope	Consistency
		erosion and sediment control and stormwater regulations An erosion and sediment control plan (ESCP) and stormwater management plan would be required under the Preferred Alternative. Before beginning construction, the contractor developed and submitted the plans to VDEQ for review and approval. VDEQ issued a Virginia Stormwater Management Program (VSMP) permit to the contractor. The contractor implemented and will continue to maintain the approved ESCP and stormwater pollution prevention plan for the duration of the project. Toward the end of the construction project's schedule, the stormwater management plan will be implemented. The Preferred Alternative would be consistent with this policy.
Point Source Pollution Control (Virginia Code §62.1-44.15)	Requires permits for all point source discharges to surface waters, pursuant to §402 of the federal Clean Water Act and administered in Virginia as the Virginia Pollutant Discharge Elimination System permit program by the VDEQ.	VDEQ issued a VSMP permit to the contractor. Toward the end of the construction project's schedule, the stormwater management plan will be implemented. The Preferred Alternative would be consistent with this policy.
Shoreline Sanitation (Virginia Code §32.1-164 through §32.1-165)	Code regulates the installation of septic tanks, including standards concerning suitable soil types and minimum distances from water bodies. Administered by Virginia Department of Health.	Not applicable to the Preferred Alternative because the design would not include installation of a septic tank. The equipment concentration site (ECS) would be connected to the local wastewater utility.
Air Pollution Control (Virginia Code §10.1-1300 through 10.1-1320)	Policy provides a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). This program is administered by the State Air Pollution Control Board.	The Preferred Alternative would result in air emissions from stationary and mobile sources; however, the Preferred Alternative would not result in significant impacts on air quality because the estimated emissions are well below regulatory thresholds. Therefore, the Preferred Alternative would be in compliance and consistent with the State Implementation Plan and NAAQS.
Coastal Lands Management (Virginia Code §§ 10.1- 2100 through 10.1-2114)	This state-local cooperative is pursuant to the Chesapeake Bay Preservation Act to protect water quality in the Chesapeake Bay and its tributaries.	Caroline County, FAPH, and the project site are subject to the Chesapeake Bay Preservation Act and regulations. There are no Restoration Protection Areas or Restoration Management Areas on the project. Because the land disturbance for this project is

Policy	Scope	Consistency
		greater than 2,500 square feet, the project will comply with VDEQ erosion and sediment control and stormwater regulations, and would be consistent with this policy.

Additional Supporting Information

An Amended EA is being prepared for the Proposed Action. A copy of the Amended EA will be available for agency review during the 30-day public review.

Attachments include:

- Attachment 1: January 2017 VDEQ letter
- Attachment 2: Site Figures
- Attachment 3: Air Quality Emissions Calculations

Based on the enclosed information, data, and analysis, FAPH finds that the proposed construction and operation of a new ECS is consistent to the maximum extent practicable with the enforcement policies of the Virginia Coastal Zone Management Program.

Pursuant to 15 CFR 930.41, the Virginia Coastal Zone Management Program has 60 days from the receipt of this letter in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR 930.41(b). Virginia's concurrence will be presumed if its response is not received by FAPH on the 60th day from receipt of this determination. The Commonwealth's response should be sent to Fort A.P. Hill Directorate of Public Works, Environmental and Natural Resources Division, 19952 North Range Road, Bldg. 1220, Fort A.P. Hill, Virginia 22427, or submitted by email at usarmy.aphill.imcom-northeast.mail.ernd@mail.mil.

References

Brown, Kristine/FAPH NEPA Planner. 2016. Personal communication with Laura Haught/CH2M July 12.

CH2M. 2016. *Surveys for Federally-Listed Plant Species, Fort A.P. Hill, Virginia*. Fort A.P. Hill, U.S. Army Reserve, 99th Regional Support Command and U.S. Army Corps of Engineers – Louisville District. Draft. July.

Copperhead Environmental Consulting. 2016. *Draft Indiana Bat and Northern Long-eared Bat Presence/Probable Absence Survey for a Proposed Equipment Concentration Site on Fort A.P. Hill, Caroline County, Virginia.* June 15.

Federal Emergency Management Agency. 2009a. Flood Insurance Rate Map (Map No. 51033C0250C).

Federal Emergency Management Agency. 2009b. Flood Insurance Rate Map (Map No. 51033C0100C).

Fort A.P. Hill (FAPH). 2016. Integrated Natural Resources Management Plan. Draft.

Fort A.P. Hill (FAPH). 2017. *Final Environmental Assessment and Finding of No Significant Impact Equipment Concentration Site, U.S. Army Reserve, Fort A.P. Hill, Virginia.* March.

Virginia Department of Environmental Quality (VDEQ). 2016. Virginia Coastal Zone Management Program. http://www.deq.virginia.gov/Programs/CoastalZoneManagement/DescriptionBoundary.aspx. Accessed on July 10, 2016.

XCEL Engineering, Inc. 2016. Environmental Condition of Property Report Proposed Military Construction Project, A.P. Hill Drive and Shackleford Road, Fort A.P. Hill, Caroline County, Virginia. Draft. July.

Attachment 1
January 2017 VDEQ Letter

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
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January 12, 2017

Fort A.P. Hill Directorate of Public Works
Environmental and Natural Resources Division
NEPA Coordinator
19952 North Range Road, Bldg. 1220
Fort A.P. Hill, Virginia 22427-3123

RE: Federal Consistency Determination for the Construction of an Equipment Concentration Site, Fort A.P. Hill, Caroline County, DEQ 16-225F.

Dear Director:

The Commonwealth of Virginia has completed its review of the Federal Consistency Determination (FCD) for the above-referenced project. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of FCDs and responding to appropriate officials on behalf of the Commonwealth. This letter is in response to your submission received on November 16, 2016 requesting concurrence with the FCD prepared by CH2M on behalf of the Department of the Army. The following agencies participated in this review:

Department of Environmental Quality
Department of Conservation and Recreation
Department of Game and Inland Fisheries
Department of Health
Department of Historic Resources

In addition, the Virginia Marine Resources Commission, Department of Agriculture and Consumer Services, Department of Forestry, George Washington Regional Commission, and Caroline County were invited to participate in the review.

PROJECT DESCRIPTION

The Department of the Army, U.S. Army Reserve (USAR) proposes to construct and operate an equipment concentration site (ECS) at Fort A.P. Hill in Caroline County, Virginia. The USAR would construct and operate the new ECS on approximately 41 acres of land northwest of the intersection of Shackleford Road and A.P. Hill Drive. The

site (Site 1) is wooded with a tank trail (Tator Trail) bisecting the site in a north/south direction and includes a concrete-vaulted latrine along the tank trail. The concrete latrine building would be demolished. The entrance to the proposed ECS would be from Shackleford Road. The ECS would include a 27,443-square-foot tactical equipment maintenance facility (TEMF), a 55,000-square-foot general purpose warehouse, a vehicle wash rack platform, a bi-level equipment loading ramp, and parking areas for military equipment and privately owned vehicles. The project would also include construction of stormwater management features. Additional construction activities would consist of paving, fencing, making general site improvements, and extending utilities to serve the new facilities. The design will comply with the Leadership in Energy and Environmental Design Silver standard, feature low-impact development, and consider renewable energy initiatives.

FEDERAL CONSISTENCY PUBLIC PARTICIPATION

In accordance with Title 15, Code of Federal Regulations (CFR), §930.2, the public was invited to participate in the review of the FCC. Public notice of this proposed action was published in OEIR's Program Newsletter and on the DEQ website from November 18, 2016 through December 15, 2016. No public comments were received in response to the notice.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the Coastal Zone Management Act of 1972 (§ 1456(c)), as amended, and the federal consistency regulations implementing the CZMA (15 CFR Part 930, Subpart C, § 930.30 *et seq.*) federal actions that can have reasonably foreseeable effects on Virginia's coastal uses or resources must be conducted in a manner which is consistent to the maximum extent practicable with the Virginia Coastal Zone Management (CZM) Program. The Virginia CZM Program is comprised of a network of programs administered by several agencies. In order to be consistent with the Virginia CZM Program, the applicant must obtain all the applicable permits and approvals listed under the enforceable policies of the Program prior to commencing the project.

FEDERAL CONSISTENCY CONCURRENCE

Based on our review of the FCD and the comments submitted by agencies administering the enforceable policies of the Virginia CZM Program, DEQ concurs that the proposal is consistent with the Virginia CZM Program provided it complies with all the applicable permits, approvals, and conditions of the enforceable policies of the Virginia CZM Program (see detailed discussions below). In addition, DEQ recommends that USAR consider the project's impacts on the advisory policies of the Virginia CZM Program (Attachment 2).

Other state approvals which may apply to this project are not included in this consistency concurrence. Therefore, USAR must ensure that this project is constructed

and operated in accordance with all applicable federal, state, and local laws and regulations.

FEDERAL CONSISTENCY ANALYSIS

According to information in the FCD, the proposed activity would have no effect on the following enforceable policies: fisheries management; subaqueous lands management; wetlands management; dunes management; point source pollution control; and shoreline sanitation. The resource agencies that are responsible for the administration of the enforceable policies of the Virginia CZM Program generally agree with USAR's determination. USAR must ensure that the proposed action is consistent with the aforementioned policies. The analysis which follows responds to USAR's discussion of the enforceable policies of the Virginia CZM Program that apply to this project and review comments submitted by agencies that administer the enforceable policies.

1. Fisheries Management. According to the FCD (page 2), no surface waters are present on Site 1. The document (page 7) concludes that the fisheries management enforceable policy would not be affected since the site does not contain finfish or shellfish resources or fisheries.

1(a) Agency Jurisdictions. The fisheries management enforceable policy is administered by the Department of Game and Inland Fisheries (Virginia Code §§29.1-100 to 29.1-570) and Virginia Marine Resources Commission (Virginia Code §§28.2-200 to 28.2-713) which have management authority for the conservation and enhancement of finfish and shellfish resources in the Commonwealth.

1(b) Agency Findings.

(i) Department of Game and Inland Fisheries

The Department of Game and Inland Fisheries (DGIF) did not indicate that fisheries resources under its jurisdiction would be impacted by the proposal.

(ii) Virginia Marine Resources Commission

The Virginia Marine Resources Commission (VMRC) did not respond to the request for comments on the FCD.

1(c) Conclusion. This project is consistent with the fisheries management enforceable policy of the Virginia CZM Program.

For additional information, contact VMRC, Randy Owen at (757) 247-2251, and/or DGIF, Amy Ewing at (804) 367-2211.

2. Subaqueous Lands Management. According to the FCD (page 2), no surface waters are present on Site 1.

2(a) Agency Jurisdiction. The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, tidal wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality. The program is administered by the Virginia Marine Resources Commission (Virginia Code §28.2-1200 to §28.2-1213).

2(b) Agency Findings. VMRC did not respond to the request for comments on the FCD.

2(c) Conclusion. The project is consistent with the subaqueous lands management enforceable policy of the Virginia CZM Program.

For additional information, contact VMRC, Randy Owen at (757) 247-2251.

3. Wetlands Management. According to the FCD (page 2), a wetland delineation was conducted on May 23 and 24, 2016. No surface waters or wetlands were identified on Site 1.

3(a) Agency Jurisdiction. The wetlands management enforceable policy is administered by the Virginia Marine Resources Commission (tidal wetlands) (Virginia Code §28.2-1301 through 28.2-1320) and the Department of Environmental Quality through the Virginia Water Protection Permit program (tidal and non-tidal wetlands) (Virginia Code §62.1-44.15:20 and Water Quality Certification pursuant to Section 401 of the Clean Water Act).

3(b) Agency Findings.

(i) Department of Environmental Quality

The Virginia Water Protection (VWP) Permit program at the DEQ Northern Regional Office (NRO) did not indicate that wetlands would be impacted by the proposed ECS.

(ii) Virginia Marine Resources Commission

VMRC did not respond to the request for comments on the FCD.

3(c) Conclusion. The project is consistent with the wetlands management enforceable policy of the Virginia CZM Program.

For additional information, contact DEQ-NRO, Trisha Beasley at (703) 583-3940 and/or VMRC, Randy Owen at (757) 247-2251.

4. Nonpoint Source Pollution Control. According to the FCD (page 8), because land disturbance for this project will be greater than 2,500 square feet, the project will comply with erosion and sediment control and stormwater regulations administered by DEQ.

4(a) Agency Jurisdiction. The DEQ Office of Stormwater Management (OSWM) administers the nonpoint source pollution control enforceable policy through the *Virginia Erosion and Sediment Control Law and Regulations* (*VESCL&R*) and *Virginia Stormwater Management Law and Regulations* (*VSWML&R*). In addition, DEQ is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land-disturbing activities under the Virginia Stormwater Management Program.

4(b) Requirements. DEQ-OSWM did not respond to our request for comments. However, based on responses to similar projects, regulatory guidance for the control of non-point source pollution is presented below.

(i) Erosion and Sediment Control and Stormwater Management Plans

According to DEQ, USAR and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with the *Virginia Erosion and Sediment Control Law and Regulations* (*VESCL&R*) and *Virginia Stormwater Management Law and Regulations* (*VSWML&R*), including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 2,500 square feet in lands analogous to Chesapeake Bay Preservation Areas would be regulated by *VESCL&R*. Accordingly, the applicant must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan is submitted to DEQ-NRO, which serves the area where the project is located, for review for compliance. The applicant is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: VESCL 62.1-44.15 *et seq.*]

(ii) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities (VAR10)

The operator or owner of a construction project involving land-disturbing activities equal to 1 acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater

pollution prevention plan (SWPPP). The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the *VSMP Permit Regulations*. General information and registration forms for the General Permit are available on DEQ's website at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx. [Reference: Virginia Stormwater Management *Act* 62.1-44.15 *et seq.*] *VSMP Permit Regulations* 9 VAC 25-870-10 *et seq.*].

4(c) Conclusion. The proposed project is consistent with the nonpoint source pollution control enforceable policy of the Virginia CZM Program, provided USAR obtains and complies with applicable ESC and SWM authorizations and requirements.

5. Air Pollution Control. According to the FCD (page 9), construction would result in air emissions from stationary and mobile sources. However, the project would not result in significant impacts to air quality because the estimated emissions are well below regulatory thresholds. Therefore, the project would be in compliance and consistent with the State Implementation Plan and National Ambient Air Quality Standards (NAAQS).

5(a) Agency Jurisdiction. DEQ's Air Division implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (DEQ) (Virginia Code §10-1.1300 through §10.1-1320).

5(b) Agency Findings. According to the DEQ Air Division, the project site is located in an ozone (O_3) attainment area.

5(c) Recommendation. USAR is encouraged to take all reasonable precautions to limit emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), principally by controlling or limiting the burning of fossil fuels.

5(d) Requirements. The following regulatory requirements will apply to the proposed action.

(i) Fugitive Dust

During construction fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution*. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and

- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(ii) Open Burning

If project activities include the burning of construction or demolition material, this activity must meet the requirements under 9 VAC 5-130 *et seq.* of the *Regulations* for open burning, and it may require a permit. Should open burning or use of special incineration devices be employed in the disposal of land-clearing debris during construction, the operation would be subject to the *Open Burning Regulation* (9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100). The *Regulations* for open burning provide for, but do not require, the local adoption of a model ordinance concerning open burning. USAR should contact Caroline County fire officials to determine what local requirements, if any, exist.

(i) Fuel Burning Equipment

Should the structures require the installation of fuel burning equipment (e.g. boilers and generators), a permit may be required prior to beginning construction of the facility (9 VAC 5-80, Article 6, Permits for New and Modified Sources). USAR should contact DEQ-NRO for guidance on whether this provision applies.

5(e) Conclusion. The project is consistent with the air pollution control enforceable policy of the Virginia CZM Program provided USAR obtains and complies with all applicable approvals prior to implementation of the project.

6. Coastal Lands Management. According to the FCD (page 9), there are no Resource Protection Areas or Resource Management Areas on the project site. Because the land disturbance for this project is greater than 2,500 square feet, the project will comply with DEQ erosion and sediment control and stormwater regulations.

6(a) Agency Jurisdiction. The DEQ Office of Local Government Programs (OLGP) administers the coastal lands management enforceable policy through the Chesapeake Bay Preservation Act (Bay Act) (Virginia Code §62.1-44.15 *et seq.*) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (*Regulations*) (9 VAC 25-830-10 *et seq.*).

6(b) Agency Comments. In Caroline County, the areas protected by the Bay Act require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include:

- tidal wetlands;
- certain non-tidal wetlands;
- tidal shores; and

- a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow.

All areas of the County not included in the RPA are designated as RMA.

6(c) Agency Findings. DEQ-OLGP finds that there are no lands analogous to RPAs on the land proposed for the ECS. However, the site is located in lands analogous to RMA.

6(d) Requirements. Federal actions on installations located within the state's designated coastal zone must be consistent to the maximum extent practicable with the performance criteria of the *Regulations* on lands analogous to locally designated RPA and RMA, as provided in 9 VAC 25-830-130 and 140 of the *Regulations*, including:

- minimizing land disturbance (including access and staging areas);
- retaining existing vegetation;
- minimizing impervious cover;
- complying with the requirements of the *Virginia Erosion and Sediment Control Handbook* for land-disturbing activities equal to or greater than 2,500 square feet; and
- adhering to stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations*.

6(e) Conclusion. The project is consistent with the coastal lands management enforceable policy of the Virginia CZM Program as administered by DEQ through the Bay Act and Regulations, provided USAR obtains and complies with the conditions of the authorization.

ADDITIONAL ENVIRONMENTAL CONSIDERATIONS

In addition to the enforceable policies of the Virginia CZM Program, comments were provided with respect to other applicable requirements and recommendations. The applicant must ensure that this project is constructed and operated in accordance with all applicable federal, state, and local laws and regulations.

1. Solid and Hazardous Waste Management.

1(a) Agency Jurisdiction. On behalf of the Virginia Waste Management Board, the DEQ Division of Land Protection and Revitalization (DEQ-DLPR) is responsible for carrying out the mandates of the Virginia Waste Management Act (Virginia Code §10.1-1400 *et seq.*), as well as meeting Virginia's federal obligations under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation Liability Act (CERCLA), commonly known as Superfund.

Virginia:

- Virginia Waste Management Act, Virginia Code § 10.1-1400 *et seq.*
- *Virginia Solid Waste Management Regulations*, 9 VAC 20-81
- (9 VAC 20-81-620 applies to asbestos-containing materials)
- *Virginia Hazardous Waste Management Regulations*, 9 VAC 20-60
- (9 VAC 20-60-261 applies to lead-based paints)
- *Virginia Regulations for the Transportation of Hazardous Materials*, 9 VAC 20-110.

Federal:

- Resource Conservation and Recovery Act, 42 U.S. Code sections 6901 *et seq.*
- U.S. Department of Transportation *Rules for Transportation of Hazardous Materials*, 49 *Code of Federal Regulations*, Part 107
- Applicable rules contained in Title 40, *Code of Federal Regulations.*

DEQ-DLPR also administers laws and regulations on behalf of the State Water Control Board governing Petroleum Storage Tanks (Virginia Code §62.1-44.34:8 *et seq.*), including Aboveground Storage Tanks (9 VAC 25-91 *et seq.*) and Underground Storage Tanks (9 VAC 25-580 *et seq.* and 9 VAC 25-580-370 *et seq.*), also known as 'Virginia Tank Regulations', and § 62.1-44.34:14 *et seq.* which covers oil spills.

1(b) Agency Findings. DEQ-DLPR staff conducted a search (1,000-foot radius) of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project area. DLPR search did not identify any waste sites in close proximity which might impact the project activity. However, Fort A.P. Hill is listed as is a CERCLA waste site:

- VA2210020416, Fort A. P Hill, US Route 301, Bowling Green, VA 22427. Not on the National Priority List (NPL).

1(c) Recommendations.

(i) RCRA and CERCLA Waste Sites

Detailed RCRA and CERCLA hazardous waste site information may be accessed from the following Environmental Protection Agency (EPA) websites at:

- https://www3.epa.gov/enviro/;
- https://rcrainfopreprod.epa.gov/rcrainfoweb/action/main-menu/view; and
- https://www.epa.gov/superfund.

(ii) Pollution Prevention

Implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

1(d) Requirements.

(i) Waste Management

Any soil that is suspected of contamination or wastes that are generated during construction must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. All construction waste must be characterized in accordance with the *Virginia Hazardous Waste Management Regulations* prior to management at an appropriate facility. It is the applicant's responsibility to determine if a solid waste meets the criteria of a hazardous waste and be managed appropriately.

(ii) Petroleum Contamination

If evidence of a petroleum release is discovered during construction of this project, it must be reported to DEQ (Virginia Code §§ 62.1-44.34.8 through 9 and 9 VAC 25-580-10 *et seq.*). Petroleum contaminated soils generated during construction of this project must be characterized and disposed of properly.

(iii) Petroleum Storage Tank Compliance and Inspections

The installation and use of an aboveground storage tank (AST) of greater than 660 gallons for temporary fuel storage of more than 120 days must follow the requirements in the *Facility and Aboveground Storage Tank Regulation* (9 VAC 25-91-10 *et seq.*)

If you have any other questions or need further information regarding waste comments, contact DEQ-DLPR, Katy Dacey at (804) 698-4274.

2. Natural Heritage Resources.

2(a) Agency Jurisdiction.

(i) The Virginia Department of Conservation and Recreation (DCR) Division of Natural Heritage (DNH)

DNH's mission is conserving Virginia's biodiversity through inventory, protection and stewardship. The Virginia Natural Area Preserves Act (Virginia Code §10.1-209 through 217) authorizes DCR to maintain a statewide database for conservation planning and project review, protect land for the conservation of biodiversity, and protect and ecologically manage the natural heritage resources of Virginia (the habitats of rare,

threatened and endangered species, significant natural communities, geologic sites, and other natural features).

(ii) Virginia Department of Agriculture and Consumer Services (VDACS)

The Endangered Plant and Insect Species Act of 1979 (Virginia Code Chapter 39 §3.1-1020 through 1030) authorizes VDACS to conserve, protect and manage endangered and threatened species of plants and insects. Under a Memorandum of Agreement established between VDACS and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

2(b) Agency Findings.

(i) Mill Creek Slopes Conservation Site

According to the information currently in DCR files, the Mill Creek Slopes Conservation Site is located within the project site. The Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resources of concern at this site are:

Helonias bullata	Swamp pink	G3/S2S3/LT/LE
Coastal Plain/Outer Piedmont Acidic Seepage Swamp		G3?/S3/NL/NL

See DCR-DNH comments attached for more detailed information on these resources.

(ii) TA22B Mill Creek Tributary Stream Conservation Unit

The TA22B Mill Creek Tributary Stream Conservation Unit (SCU) is located downstream of the project site. The TA22B Mill Creek Tributary SCU has been given a biodiversity ranking of B5, which represents a site of general significance. The natural heritage resource associated with this site is:

Epitheca spinosa	Robust baskettail	G4/S2S3/NL/NL

See DCR-DNH comments attached for more detailed information on this resource.

(iii)Threatened and Endangered Plant and Insect Species

DCR finds that the current activity will not affect any documented state-listed plants or insects.

(iv) State Natural Area Preserves

DCR files do not indicate the presence of any State Natural Area Preserves under the agency's jurisdiction in the project vicinity.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Molly Joseph Ward
Secretary of Natural Resources

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Director

(804) 698-4000
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January 12, 2017

Fort A.P. Hill Directorate of Public Works
Environmental and Natural Resources Division
NEPA Coordinator
19952 North Range Road, Bldg. 1220
Fort A.P. Hill, Virginia 22427-3123

RE: Federal Consistency Determination for the Construction of an Equipment Concentration Site, Fort A.P. Hill, Caroline County, DEQ 16-225F.

Dear Director:

The Commonwealth of Virginia has completed its review of the Federal Consistency Determination (FCD) for the above-referenced project. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of FCDs and responding to appropriate officials on behalf of the Commonwealth. This letter is in response to your submission received on November 16, 2016 requesting concurrence with the FCD prepared by CH2M on behalf of the Department of the Army. The following agencies participated in this review:

Department of Environmental Quality
Department of Conservation and Recreation
Department of Game and Inland Fisheries
Department of Health
Department of Historic Resources

In addition, the Virginia Marine Resources Commission, Department of Agriculture and Consumer Services, Department of Forestry, George Washington Regional Commission, and Caroline County were invited to participate in the review.

PROJECT DESCRIPTION

The Department of the Army, U.S. Army Reserve (USAR) proposes to construct and operate an equipment concentration site (ECS) at Fort A.P. Hill in Caroline County, Virginia. The USAR would construct and operate the new ECS on approximately 41 acres of land northwest of the intersection of Shackleford Road and A.P. Hill Drive. The

site (Site 1) is wooded with a tank trail (Tator Trail) bisecting the site in a north/south direction and includes a concrete-vaulted latrine along the tank trail. The concrete latrine building would be demolished. The entrance to the proposed ECS would be from Shackleford Road. The ECS would include a 27,443-square-foot tactical equipment maintenance facility (TEMF), a 55,000-square-foot general purpose warehouse, a vehicle wash rack platform, a bi-level equipment loading ramp, and parking areas for military equipment and privately owned vehicles. The project would also include construction of stormwater management features. Additional construction activities would consist of paving, fencing, making general site improvements, and extending utilities to serve the new facilities. The design will comply with the Leadership in Energy and Environmental Design Silver standard, feature low-impact development, and consider renewable energy initiatives.

FEDERAL CONSISTENCY PUBLIC PARTICIPATION

In accordance with Title 15, Code of Federal Regulations (CFR), §930.2, the public was invited to participate in the review of the FCC. Public notice of this proposed action was published in OEIR's Program Newsletter and on the DEQ website from November 18, 2016 through December 15, 2016. No public comments were received in response to the notice.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the Coastal Zone Management Act of 1972 (§ 1456(c)), as amended, and the federal consistency regulations implementing the CZMA (15 CFR Part 930, Subpart C, § 930.30 *et seq.*) federal actions that can have reasonably foreseeable effects on Virginia's coastal uses or resources must be conducted in a manner which is consistent to the maximum extent practicable with the Virginia Coastal Zone Management (CZM) Program. The Virginia CZM Program is comprised of a network of programs administered by several agencies. In order to be consistent with the Virginia CZM Program, the applicant must obtain all the applicable permits and approvals listed under the enforceable policies of the Program prior to commencing the project.

FEDERAL CONSISTENCY CONCURRENCE

Based on our review of the FCD and the comments submitted by agencies administering the enforceable policies of the Virginia CZM Program, DEQ concurs that the proposal is consistent with the Virginia CZM Program provided it complies with all the applicable permits, approvals, and conditions of the enforceable policies of the Virginia CZM Program (see detailed discussions below). In addition, DEQ recommends that USAR consider the project's impacts on the advisory policies of the Virginia CZM Program (Attachment 2).

Other state approvals which may apply to this project are not included in this consistency concurrence. Therefore, USAR must ensure that this project is constructed

and operated in accordance with all applicable federal, state, and local laws and regulations.

FEDERAL CONSISTENCY ANALYSIS

According to information in the FCD, the proposed activity would have no effect on the following enforceable policies: fisheries management; subaqueous lands management; wetlands management; dunes management; point source pollution control; and shoreline sanitation. The resource agencies that are responsible for the administration of the enforceable policies of the Virginia CZM Program generally agree with USAR's determination. USAR must ensure that the proposed action is consistent with the aforementioned policies. The analysis which follows responds to USAR's discussion of the enforceable policies of the Virginia CZM Program that apply to this project and review comments submitted by agencies that administer the enforceable policies.

1. Fisheries Management. According to the FCD (page 2), no surface waters are present on Site 1. The document (page 7) concludes that the fisheries management enforceable policy would not be affected since the site does not contain finfish or shellfish resources or fisheries.

1(a) Agency Jurisdictions. The fisheries management enforceable policy is administered by the Department of Game and Inland Fisheries (Virginia Code §§29.1-100 to 29.1-570) and Virginia Marine Resources Commission (Virginia Code §§28.2-200 to 28.2-713) which have management authority for the conservation and enhancement of finfish and shellfish resources in the Commonwealth.

1(b) Agency Findings.

(i) Department of Game and Inland Fisheries

The Department of Game and Inland Fisheries (DGIF) did not indicate that fisheries resources under its jurisdiction would be impacted by the proposal.

(ii) Virginia Marine Resources Commission

The Virginia Marine Resources Commission (VMRC) did not respond to the request for comments on the FCD.

1(c) Conclusion. This project is consistent with the fisheries management enforceable policy of the Virginia CZM Program.

For additional information, contact VMRC, Randy Owen at (757) 247-2251, and/or DGIF, Amy Ewing at (804) 367-2211.

2. Subaqueous Lands Management. According to the FCD (page 2), no surface waters are present on Site 1.

2(a) Agency Jurisdiction. The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, tidal wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality. The program is administered by the Virginia Marine Resources Commission (Virginia Code §28.2-1200 to §28.2-1213).

2(b) Agency Findings. VMRC did not respond to the request for comments on the FCD.

2(c) Conclusion. The project is consistent with the subaqueous lands management enforceable policy of the Virginia CZM Program.

For additional information, contact VMRC, Randy Owen at (757) 247-2251.

3. Wetlands Management. According to the FCD (page 2), a wetland delineation was conducted on May 23 and 24, 2016. No surface waters or wetlands were identified on Site 1.

3(a) Agency Jurisdiction. The wetlands management enforceable policy is administered by the Virginia Marine Resources Commission (tidal wetlands) (Virginia Code §28.2-1301 through 28.2-1320) and the Department of Environmental Quality through the Virginia Water Protection Permit program (tidal and non-tidal wetlands) (Virginia Code §62.1-44.15:20 and Water Quality Certification pursuant to Section 401 of the Clean Water Act).

3(b) Agency Findings.

(i) Department of Environmental Quality

The Virginia Water Protection (VWP) Permit program at the DEQ Northern Regional Office (NRO) did not indicate that wetlands would be impacted by the proposed ECS.

(ii) Virginia Marine Resources Commission

VMRC did not respond to the request for comments on the FCD.

3(c) Conclusion. The project is consistent with the wetlands management enforceable policy of the Virginia CZM Program.

For additional information, contact DEQ-NRO, Trisha Beasley at (703) 583-3940 and/or VMRC, Randy Owen at (757) 247-2251.

4. Nonpoint Source Pollution Control. According to the FCD (page 8), because land disturbance for this project will be greater than 2,500 square feet, the project will comply with erosion and sediment control and stormwater regulations administered by DEQ.

4(a) Agency Jurisdiction. The DEQ Office of Stormwater Management (OSWM) administers the nonpoint source pollution control enforceable policy through the *Virginia Erosion and Sediment Control Law and Regulations* (*VESCL&R*) and *Virginia Stormwater Management Law and Regulations* (*VSWML&R*). In addition, DEQ is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land-disturbing activities under the Virginia Stormwater Management Program.

4(b) Requirements. DEQ-OSWM did not respond to our request for comments. However, based on responses to similar projects, regulatory guidance for the control of non-point source pollution is presented below.

(i) Erosion and Sediment Control and Stormwater Management Plans

According to DEQ, USAR and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with the *Virginia Erosion and Sediment Control Law and Regulations* (*VESCL&R*) and *Virginia Stormwater Management Law and Regulations* (*VSWML&R*), including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 2,500 square feet in lands analogous to Chesapeake Bay Preservation Areas would be regulated by *VESCL&R*. Accordingly, the applicant must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan is submitted to DEQ-NRO, which serves the area where the project is located, for review for compliance. The applicant is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: VESCL 62.1-44.15 *et seq.*]

(ii) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities (VAR10)

The operator or owner of a construction project involving land-disturbing activities equal to 1 acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater

pollution prevention plan (SWPPP). The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the *VSMP Permit Regulations*. General information and registration forms for the General Permit are available on DEQ's website at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx. [Reference: Virginia Stormwater Management *Act* 62.1-44.15 *et seq.*] *VSMP Permit Regulations* 9 VAC 25-870-10 *et seq.*].

4(c) Conclusion. The proposed project is consistent with the nonpoint source pollution control enforceable policy of the Virginia CZM Program, provided USAR obtains and complies with applicable ESC and SWM authorizations and requirements.

5. Air Pollution Control. According to the FCD (page 9), construction would result in air emissions from stationary and mobile sources. However, the project would not result in significant impacts to air quality because the estimated emissions are well below regulatory thresholds. Therefore, the project would be in compliance and consistent with the State Implementation Plan and National Ambient Air Quality Standards (NAAQS).

5(a) Agency Jurisdiction. DEQ's Air Division implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (DEQ) (Virginia Code §10-1.1300 through §10.1-1320).

5(b) Agency Findings. According to the DEQ Air Division, the project site is located in an ozone (O_3) attainment area.

5(c) Recommendation. USAR is encouraged to take all reasonable precautions to limit emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), principally by controlling or limiting the burning of fossil fuels.

5(d) Requirements. The following regulatory requirements will apply to the proposed action.

(i) Fugitive Dust

During construction fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution*. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and

2(c) Recommendations.

(i) Protection of the Aquatic Ecosystem

DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control and stormwater management laws and regulations to minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities.

(ii) Natural Heritage Resources

Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes or six months pass before the project is implemented, since new and updated information is continually added to the Biotics Data System.

3. Wildlife Resources and Protected Species.

3(a) Agency Jurisdiction. The Department of Game and Inland Fisheries, as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species, but excluding listed insects (*Virginia Code* Title 29.1). The DGIF is a consulting agency under the *U.S. Fish and Wildlife Coordination Act* (16 U.S.C. sections 661 *et seq.*), and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts.

3(b) Agency Findings. DGIF does not anticipate the project to result in adverse impacts upon the listed species and designated resources under its jurisdiction based on the scope and location of the proposed work.

3(c) Recommendations. DGIF offers the following recommendations to minimize the adverse impacts of the project development on wildlife resources:

- Coordinate with the U.S. Fish and Wildlife Service (USFWS) regarding potential impacts upon federally-listed bats known from AP Hill.
- Adhere to the currently approved AP Hill Integrated Natural Resources Management Plan (INRMP).

For additional information, contact DGIF, Amy Ewing at (804) 367-2211.

4. Public Water Supply.

4(a) Agency Jurisdiction. Virginia Department of Health (VDH) Office of Drinking Water (ODW) reviews projects for the potential to impact public drinking water sources (groundwater wells, springs and surface water intakes). VDH administers both federal and state laws governing waterworks operation.

4(b) Agency Findings. VDH-ODW finds that there are four public groundwater wells within a 1-mile radius of the project site at AP Hill, including Well PWAT 34 Long Street, Well PWAT 36-Arena #1, Well PWAT 36-Arena #2, and Well PWAT 39-Davis #2. There are no surface water intakes located within a 5-mile radius of the project area and the project is not within the watershed of any public surface water intakes.

4(c) Requirement. Potential impacts to public water and wastewater distribution systems must be verified by the local utility.

4(d) Recommendation. VDH-ODW recommends that Best Management Practices (BMPs) should be employed on the project site including erosion and sediment controls and Spill Prevention Controls and Countermeasures (SPCCs).

4(e) Conclusion. There may be impacts to public drinking water sources due to this project if the mitigation efforts outlined above are not implemented.

For additional information, contact VDH-ODW, Arlene Fields Warren at (804) 864-7781.

5. Historic and Archaeological Resources.

5(a) Agency Jurisdiction. The Virginia Department of Historic Resources (DHR) conducts reviews of both federal and state projects to determine their effect on historic properties. Under the federal process, DHR is the State Historic Preservation Office, and ensures that federal undertakings-including licenses, permits, or funding-comply with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulation at 36 CFR Part 800. Section 106 requires federal agencies to consider the effects of federal projects on properties that are listed or eligible for listing on the National Register of Historic Places. For state projects or activities on state lands, DHR is afforded an opportunity to review and comment on (1) the demolition of state property; (2) major state projects requiring an EIR; (3) archaeological investigations on state-controlled land; (4) projects that involve a landmark listed in the Virginia Landmarks Register; (5) the sale or lease of surplus state property; (6) exploration and recovery of underwater historic properties; and (7) excavation or removal of archaeological or historic features from caves. Please see DHR's website for more information about applicable state and federal laws and how to submit an application for review: http://www.dhr.virginia.gov/StateStewardship/Index.htm.

5(b) Agency Finding. DHR previously reviewed the project pursuant to Section 106 of the NHPA, as amended, and its implementing regulation 36 CFR Part 800. DHR concurs with USAR that no historic properties will be affected by the undertaking.

For additional information, contact DHR, Marc Holma at (804) 482-6090.

6. Pollution Prevention. DEQ advocates that principles of pollution prevention and sustainability be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices will help to ensure that environmental impacts are minimized. However, pollution prevention and sustainability techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

6(a) Recommendations. We have several pollution prevention recommendations that may be helpful in the construction and maintenance of the project:

- Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the proposed project is committed to complying with environmental regulations, reducing risk, minimizing environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and recognizes proponents with effective Environmental Management Systems through its Virginia Environmental Excellence Program (VEEP). VEEP provides recognition, annual permit fee discounts, and the possibility for alternative compliance methods.
- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts.
- Consider contractors' commitment to the environment when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable materials and practices for construction and design.
- Integrate pollution prevention techniques into maintenance and operations, to include inventory control for centralized storage of hazardous materials. Maintenance facilities should have sufficient and suitable space to allow for effective inventory control and preventive maintenance.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. If interested, please contact Meghann Quinn at (804) 698-4021.

7. Pesticides and Herbicides. Should construction or maintenance require the use of pesticides or herbicides for landscape maintenance, these chemicals should be in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used.

2(c) Recommendations.

(i) Protection of the Aquatic Ecosystem

DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control and stormwater management laws and regulations to minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities.

(ii) Natural Heritage Resources

Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes or six months pass before the project is implemented, since new and updated information is continually added to the Biotics Data System.

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- Adhere to the currently approved AP Hill Integrated Natural Resources Management Plan (INRMP).

For additional information, contact DGIF, Amy Ewing at (804) 367-2211.

Attachment 2
Site Figures

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Figure 2-1. Project Location

Figure 2-2. Project Area

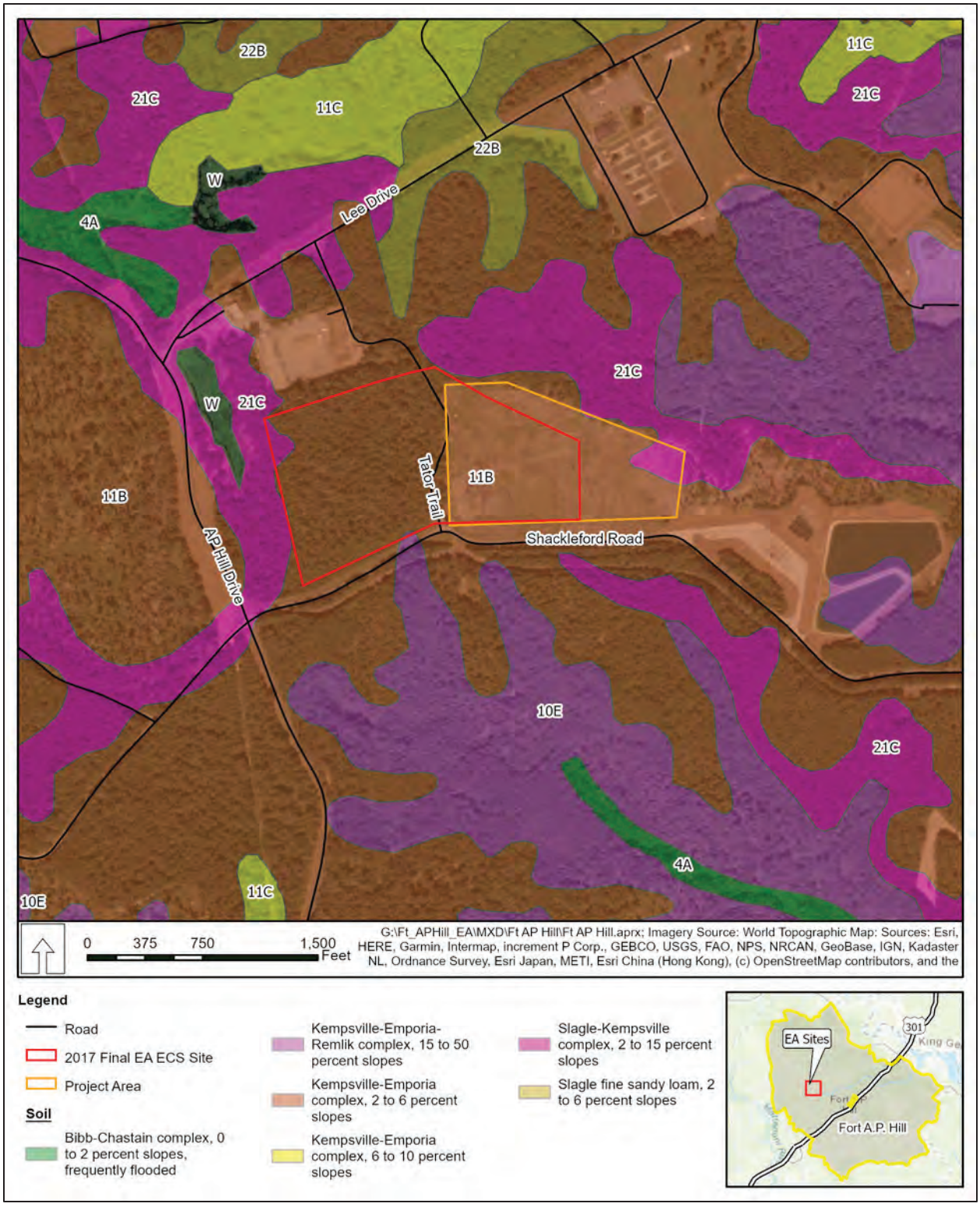

Figure 2-3. Natural Resources Conservation Service Soil Map

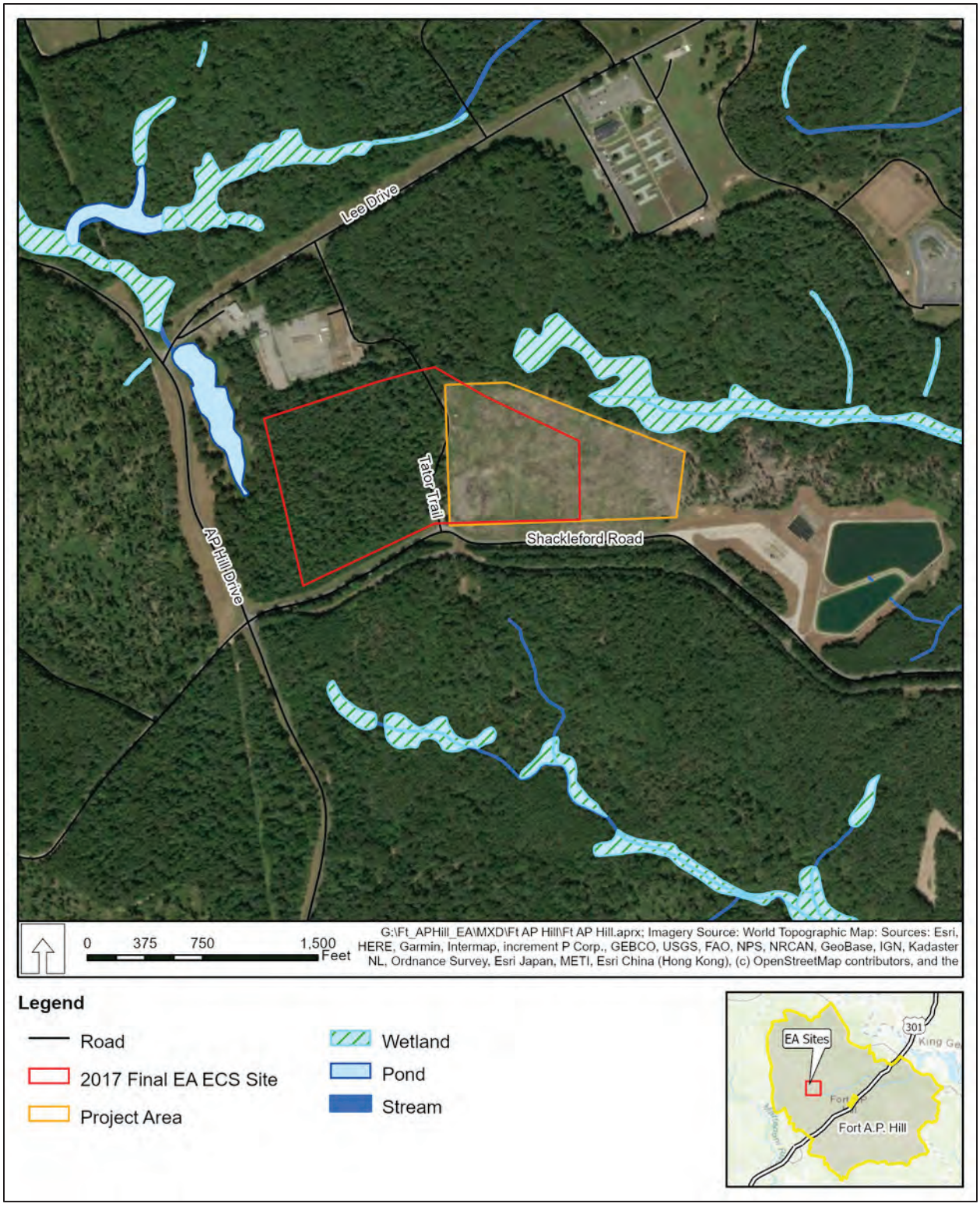

Figure 2-4. National Wetland Inventory Map

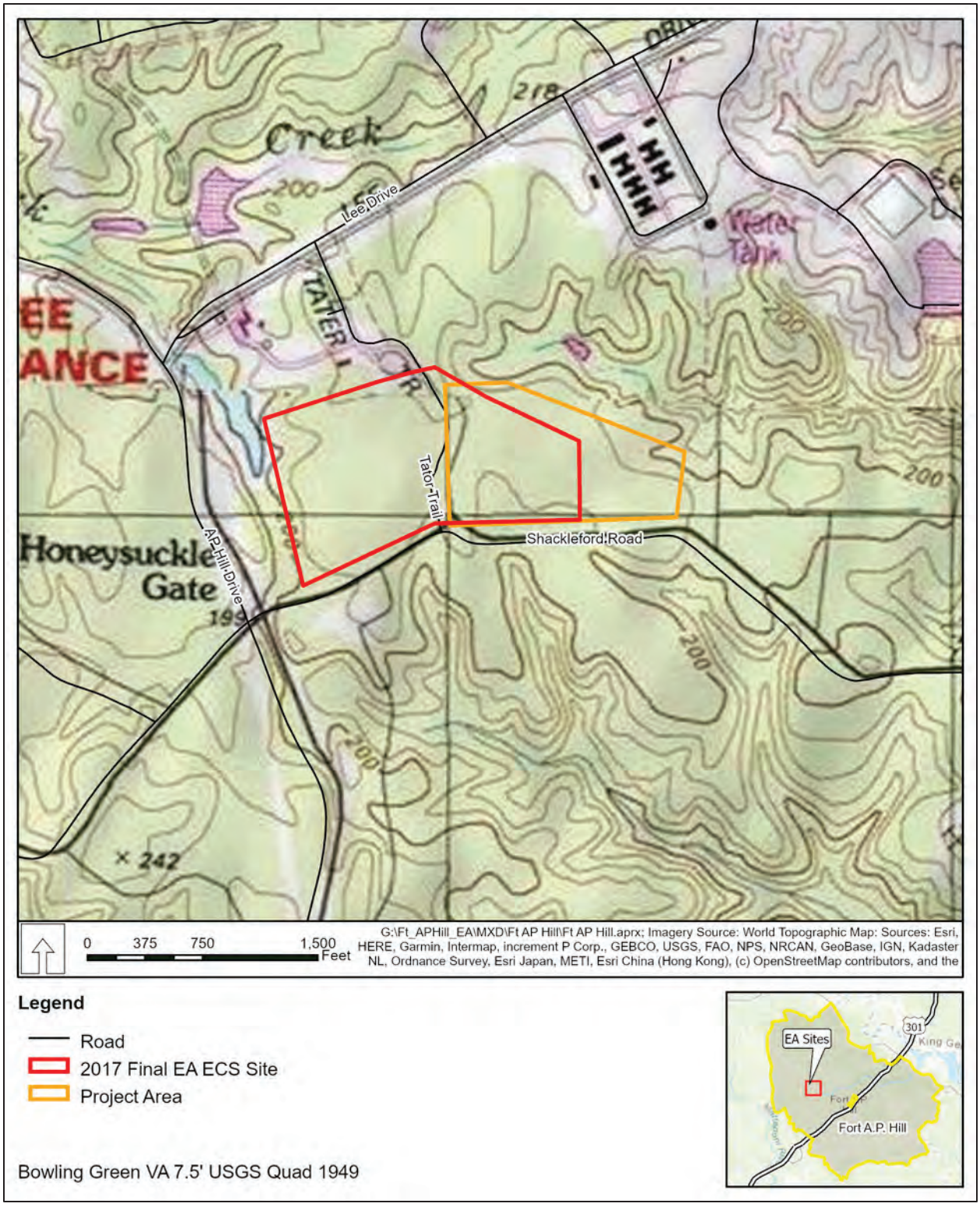

Figure 2-5. U.S. Geological Survey Topographic Map

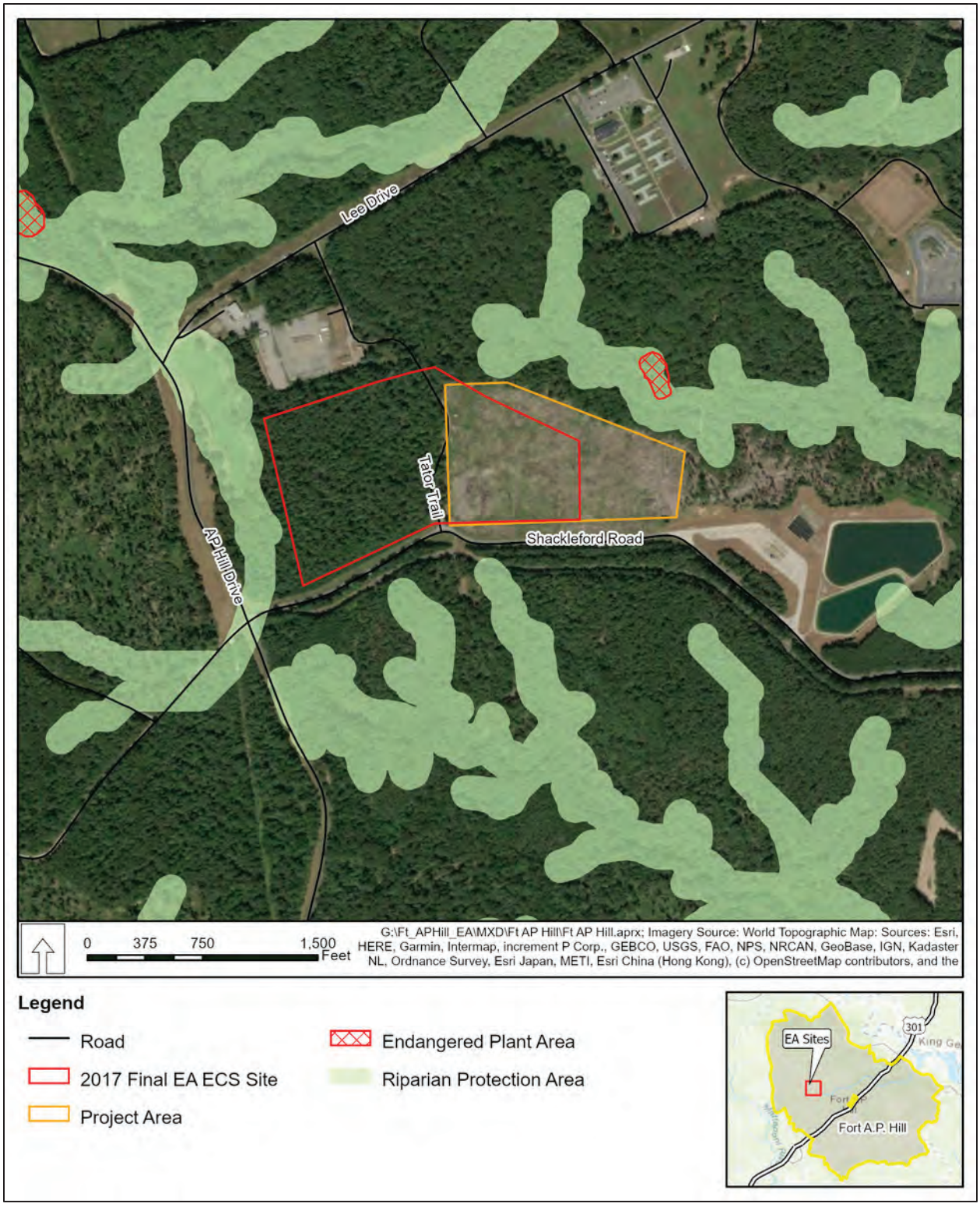

Figure 2-6. Riparian Protection Areas near the Project Area

Figure 2-7. Project Area Site Plan

Attachment 3
Air Quality Emissions Calculations

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Appendix D - Air Emissions Summary Tables
Fort A.P. Hill
Air Quality Emission Estimates

Operational Sources Summary

Operational Sources	Actual Criteria Pollutant Emissions (tpy)[1]							GHG Emissions (metric tons)			
	SO_2	NOx	CO	PM_{10}	$PM_{2.5}$	VOC	HAPs	CO_2	CH_4	N_2O	CO_2e[2]
Stationary Sources											
Heating Units	0.005	0.85	0.66	0.065	0.065	0.047	0.016	952	0.018	0.002	953
Mobile Sources											
On-road Vehicles[6]	0.006	0.60	4.24	0.07	0.033	0.12	0.009	290	0.005	0.000	290
Total	**0.01**	**1.44**	**4.91**	**0.13**	**0.10**	**0.17**	**0.025**	**1,242**	**0.023**	**0.002**	**1,243**
PSD Thresholds[3,4]	250	250	250	250	250	250	25	N/A	N/A	N/A	N/A
Non-attainment NSR Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
General Conformity *de minimis* Thresholds[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] Lead is not a significant pollutant generated from this type of action. Any lead emissions generated from the proposed action have been included as part of the HAP emissions.

[2] Based on global warming potentials of 1 for CO2, 25 for CH4 and 298 for N2O effective as of 1/1/2014.

[3] PSD thresholds apply only to stationary sources.

[4] Threshold is 25 tpy for total HAPs or 10 tpy for any individual HAP.

[5] Caroline County is an attainment area for all pollutants under NAAQS. Non-attainment NSR and General Conformity de minimis thresholds do not apply to attainment pollutants.

[6] On-road vehicle emissions represent a decrease from current site operations vehicle emissions due to employees no longer having to drive to Fort Pickett to retrieve equipment. This decrease is detailed further in the table below.

Mobile Sources Decrease Details

Operational Sources	Actual Criteria Pollutant Emissions (tpy)[1]							GHG Emissions (metric tons)			
	SO_2	NOx	CO	PM_{10}	$PM_{2.5}$	VOC	HAPs	CO_2	CH_4	N_2O	CO_2e[2]
Mobile Sources											
On-road Vehicles - Existing Condition	0.009	1.47	5.88	0.14	0.08	0.22	0.021	505	0.010	0.000	506
On-road Vehicles - Preferred Alternative	0.006	0.60	4.24	0.07	0.033	0.12	0.009	290	0.005	0.000	290
Decrease	**0.00**	**-0.88**	**-1.63**	**-0.07**	**-0.05**	**-0.10**	**-0.01**	**-215**	**-0.004**	**0.000**	**-216**

Construction Sources Summary

Construction Sources	Actual Criteria Pollutant Emissions (tons)							GHG Emissions (metric tons)			
	SO_2	NOx	CO	PM_{10}	$PM_{2.5}$	VOC	HAPs	CO_2	CH_4	N_2O	CO_2e[2]
Construction Worker Commute	0.009	0.63	6.41	0.08	0.04	0.17	0.012	401	0.008	0.000	401
Paving (Asphalt)	--	--	--	--	--	0.018	--	--	--	--	--
Equipment	0.015	12.58	5.43	0.85	0.83	0.99	0.40	1,504	0.16	0.024	1,515
Material Hauling	0.001	0.85	0.38	0.065	0.047	0.047	0.000	115.60	0.000	0.000	115.60
Site Grading Fugitive Dust Emissions	--	--	--	0.16	0.02	--	--	--	--	--	--
Demolition Emissions	--	--	--	0.000	0.000	--	--	--	--	--	--
Dust from Travel on Unpaved Roads	--	--	--	0.000	0.000	--	--	--	--	--	--
Project Construction Totals (tons)	**0.025**	**14.06**	**12.22**	**1.16**	**0.93**	**1.22**	**0.41**	**2,020**	**0.16**	**0.024**	**2,032**
Construction Totals (tpy)[1]	**0.013**	**7.03**	**6.11**	**0.58**	**0.46**	**0.61**	**0.21**	**1,010**	**0.082**	**0.012**	**1,016**
General Conformity *de minimis* Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] Construction emissions calculated over 24 months. Total emissions have been divided by 2 to estimate the annual emissions.

[2] Based on global warming potentials of 1 for CO2, 25 for CH4 and 298 for N2O effective as of 1/1/2014.

Appendix D - Table 1
Fort A.P. Hill
Air Quality Emission Estimates-Heating Unit

NG Fired Units (MMBtu/hr)[1]	**1.75**
NG Fired Units (MMBtu/hr)[2]	**0.30**
Fuel Type	**Natural Gas**
Maximum Operation Limit (hrs/yr)	**8,760**
Heat Value of Fuel (Btu/scf)[3]	**1,050**

[1] Heat input assumes 1-1 MMBtu/hr boiler (TEMF Bldg.) and 1-750,000 Btu/hr boiler (Warehouse Bldg).

[2] Heat input assumes 1-300,000 Btu/hr water heater (TEMF Bldg).

[3] Natural Gas heating value (EPA AP-42, Appendix A, Miscellaneous Data & Conversion Factors)

	Uncontrolled Potential to Emit								
	Heating Units				Heat/Vents Units and Water Heaters				Total Criteria Pollutant Emissions
Criteria Pollutant[1]	**Emission Factor ($lb/10^6$ scf)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**	**Emission Factor ($lb/10^6$ scf)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**	**(ton/yr)**
Total Particulate Matter (PM)[2]	7.60	0.013	111	0.055	7.60	0.002	19.02	0.010	0.065
Nitrogen Oxides (NOx)	100	0.17	1,460	0.73	94.00	0.027	235	0.12	0.85
Sulfur Oxides (SOx)	0.60	0.001	8.76	0.004	0.60	0.0002	1.50	0.001	0.005
Carbon Monoxide (CO)	84.00	0.14	1,226	0.61	40.00	0.011	100	0.05	0.66
VOC	5.50	0.009	80.30	0.040	5.50	0.002	13.77	0.007	0.047

[1] Criteria Pollutants, small uncontrolled boilers (EPA AP-42, Section 1.4 Natural Gas Combustion, Tables 1.4-1 and 1.4-2).

[2] PM emission factor is assumed to equal PM_{10} and $PM_{2.5}$

			Uncontrolled Potential to Emit		
Toxic Air Pollutants (Organic HAPs)[1,2]	**CAS No.**	**Emission Factor ($lb/10^6$ scf)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**
3-Methylchloranthrene	56-49-5	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Benzene	71-43-2	2.10E-03	4.10E-06	0.036	1.80E-05
Benzo(a)pyrene	50-32-8	1.20E-06	2.34E-09	2.05E-05	1.03E-08
Formaldehyde	50-00-0	7.50E-02	1.46E-04	1.28	0.001
Hexane	110-54-3	1.80E+00	0.004	30.79	0.015
Naphthalene	91-20-3	6.10E-04	1.19E-06	0.010	5.22E-06
Toluene	108-88-3	3.40E-03	6.64E-06	0.058	2.91E-05
2-Methylnaphthalene	91-57-6	2.40E-05	4.69E-08	4.10E-04	2.05E-07
7,12-Dimethylbenz(a)anthracene		1.60E-05	3.12E-08	2.74E-04	1.37E-07
Acenaphthene	83-32-9	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Acenaphthylene	203-96-8	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Anthracene	120-12-7	2.40E-06	4.69E-09	4.10E-05	2.05E-08
Benzo(a)anthracene	56-55-3	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Benzo(b)fluoranthene	205-82-3	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Benzo(g,h,i)perylene	191-24-2	1.20E-06	2.34E-09	2.05E-05	1.03E-08
Benzo(k)fluoranthene	205-82-3	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Chrysene	218-01-9	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	2.34E-09	2.05E-05	1.03E-08
Dichlorobenzene	25321-22-6	1.20E-03	2.34E-06	0.021	1.03E-05
Fluoranthene	206-44-0	3.00E-06	5.86E-09	5.13E-05	2.57E-08
Flourene	86-73-7	2.80E-06	5.47E-09	4.79E-05	2.39E-08
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Phenanathrene	85-01-8	1.70E-05	3.32E-08	2.91E-04	1.45E-07
Pyrene	129-00-0	5.00E-06	9.76E-09	8.55E-05	4.28E-08
Organic HAPs Total				**32.19**	**0.02**

[1] Toxic Air Pollutants (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3).

[2] Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

			Uncontrolled Potential to Emit		
Toxic Air Pollutants-Metals (Inorganic HAPs)[1,2]	**CAS Number**	**Emission Factor ($lb/10^6$ scf)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**
Arsenic	7440-38-2	2.00E-04	3.90E-07	0.003	1.71E-06
Barium	7440-39-3	4.40E-03	8.59E-06	0.075	3.76E-05
Beryllium	7440-41-7	1.20E-05	2.34E-08	2.05E-04	1.03E-07
Cadmium	7440-43-9	1.10E-03	2.15E-06	0.019	9.41E-06
Chromium	7440-47-3	1.40E-03	2.73E-06	0.024	1.20E-05
Cobalt	7440-48-4	8.40E-05	1.64E-07	0.001	7.18E-07
Copper	7440-50-8	8.50E-04	1.66E-06	0.015	7.27E-06
Lead		5.00E-04	9.76E-07	0.009	4.28E-06
Manganese	7439-96-5	3.80E-04	7.42E-07	0.006	3.25E-06
Mercury	7439-97-6	2.60E-04	5.08E-07	0.004	2.22E-06
Molybdenum	7439-98-7	1.10E-03	2.15E-06	0.019	9.41E-06
Nickel	7440-02-0	2.10E-03	4.10E-06	0.036	1.80E-05
Selenium	7782-49-2	2.40E-05	4.69E-08	4.10E-04	2.05E-07
Vanadium	1314-62-1	2.30E-03	4.49E-06	0.039	1.97E-05
Zinc	7440-66-6	2.90E-02	5.66E-05	0.50	2.48E-04
Inorganic HAPs Total				**0.75**	**3.74E-04**
HAPs Total				**32.94**	**0.016**

[1] Metals from Natural Gas Combustion (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4; Lead from Table 1.4-2).

[2] Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

Emission rate calculations for greenhouse gases - SCC Code 2103006000

GHG emission factors obtained from U.S. EPA Mandatory Reporting of GHGs, Final Rule; Tables C-1 and C-2

Constituent	**Emission Factor (lb/mmBtu)**	**Hourly Potential to Emit (lb/hr)**	**Annual Potential to Emit (lb/yr)**	**Annual Potential to Emit (metric tons per year)**	**CO2e (metric tons/yr)**
CO_2	116.9	239.6	2,099,092	952	952
CH_4	0.0022	0.0045	39.59	0.018	0.45
N_2O	0.00022	0.0005	3.96	0.002	0.54

[3] Based on global warming potentials of 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Appendix D - Table 2
Fort A.P. Hill
Air Quality Emission Estimates - Government and Personal Onroad Vehicles

Emissions from Worker Commuting

Emission factors for four vehicle categories were developed by running EPA's MOVES 2014a model using an average speed of 30 mph for all vehicle types and a default age distribution of vehicles. Vehicle type distributions within each category (see table below) were derived from the national average vehicle type distribution, obtained from Mobile6 and converted for use with MOVES (Source: http://www.epa.gov/otaq/models/moves/tools.htm). Mobile source emissions factors generally decrease with time; therefore, the 2016 emission factors can conservatively be used for analyses of projects occurring in years 2016 and later.

Vehicle Category	Vehicle Types included
Worker Commute	passenger cars and trucks (mix of diesel and gas from MOVES defaults)
Haul Truck	single-unit and combination long- and short-haul trucks (mix of diesel and gas from MOVES defaults)
Coach Bus	intercity buses (100% diesel)
GOV	light-duty trucks (100% diesel)

Calculation of Mileage for Government Owned Vehicles (GOVs)

Vehicle Type	# of vehicles	Total Mileage/ Year[1]	Mileage
GOVs Buses/Vans	10	1,200	12,000

[1] Assumes each government vehicle driving 50 mi/yr to site 2 weekends/mo 12 mo/year to take reservists to trainings

Calculation of Mileage for Privately Owned Vehicles (POVs)

	Estimated Vehicles Entering USARC /Year					Miles/Vehicle/ Day[3]	Total POVs per Year	Total Miles per Year
	Daily	Weekend	Annual[1]	% of Employees that drive to Property	Adjusted Vehicles per year[2]			
Daily Employee POVs	41	0	10,660	100%	10,660	50	41	533,000
Weekend Reservists POVs	0	48	1,152	100%	1,152	50	0	57,600
TOTAL (POVs)								**590,600**

[1] The annual number of vehicles entering the facility per year: 41 POV Employee Vehicles/Day x 5 (day/wk) x 52 (wks/yr) 48 Weekend Reservists POV vehicles/weekend x 2 weekends/mo x 12 mo/year

[2] Estimated maximum worst case scenario of 100% of employees commuting to the site in their personal vehicles

[3] 50 miles has been assumed to be the average distance traveled by employees in their personal vehicles commuting to and from work at Fort A.P. Hill, assuming most employees live within 25 miles of the property.

Calculation of Criteria Pollutant Emission Rates

				2016 Year Emission Factors														
				Fleet Vehicle Criteria Emission Factors (gm/mile)						Fleet Vehicle HAP Emission Factors (mg/mile)						GHG Emission Factors (gm/mile)		
Vehicle Category	Modeled Year	Number of Vehicles	Annual Mileage	CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Acrolein	Acetalde-hyde	1,3-Butadiene	Benzene	Formalde-hyde	MTBE	CO_2	CH_4	N_2O
Weekend Reservists GOV Buses/Vans	2016[1]	10	12,000	3.43	0.74	14.00	0.019	1.07	0.77	5.01	27.33	2.11	5.96	61.90	0.000	2182	0.032	0.000
Daily Employee POVs	2016[2]	41	533,000	6.46	0.17	0.63	0.009	0.09	0.04	0.13	1.99	0.90	6.21	2.53	0.000	447	0.009	0.000
Weekend Reservists POVs	2016[2]	48	57,600	6.46	0.17	0.63	0.009	0.09	0.04	0.13	1.99	0.90	6.21	2.53	0.000	447	0.009	0.000

[1] GOV Buses/Vans emission factors are based on coach bus emission factors (mix of diesel from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[2] Worker and reservists commute emission factors are based on passenger cars and trucks (mix of diesel and gas from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

				Actual Criteria Pollutant Emissions[1]						Actual HAP Emissions						GHG Emissions			
Vehicle Category	Modeled Year	Number of Vehicles	Annual Mileage	CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Acrolein	Acetaldehyde	1,3-Butadiene	Benzene	Formalde-hyde	MTBE	CO_2	CH_4	N_2O	CO_2e[2]
Weekend Reservists GOV Buses/Vans	2016	10	12,000	90	19.60	369.58	0.501	28.16	20.21	0.132	0.721	0.056	0.157	1.634	0.000	57,713	0.837	0.000	57,734
Daily Employee POVs	2016	41	533,000	7,580	195.83	743.72	10.31	100.17	41.57	0.15	2.33	1.05	7.28	2.97	0.000	524,934	10.04	0.000	525,185
Weekend Reservists POVs	2016	48	57,600	819	21	80.4	1.11	10.82	4.49	0.02	0.25	0.11	0.79	0.32	0.000	56,728	1.08	0.000	56,756
TOTAL EMISSIONS (lb/yr)				**8,489**	**237**	**1,194**	**11.9**	**139**	**66.27**	**0.30**	**3.30**	**1.22**	**8.23**	**4.92**	**0.000**	**639,376**	**11.96**	**0.000**	**639,675**
TOTAL EMISSIONS (tpy)				**4.2**	**0.12**	**0.60**	**0.006**	**0.07**	**0.03**	**1.51E-04**	**0.002**	**0.001**	**0.004**	**0.002**	**0.000**	--	--	--	--
TOTAL GHG EMISSIONS (metric tons/yr)				--	--	--	--	--	--	--	--	--	--	--	--	**290**	**0.005**	**0.000**	**290**

[1] Actual Emissions (lb/yr) = Emission Factor (gm/mile) x Annual Mileage x 0.0022 (lb/gm).

[2] Based on global warming potentials of 1 for CO2, 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Appendix D -Table 3
Fort A.P. Hill
Air Quality Emission Estimates - Government and Personal Onroad Vehicles Existing Conditions

Emissions from Worker Commuting

Emission factors for four vehicle categories were developed by running EPA's MOVES 2014a model using an average speed of 30 mph for all vehicle types and a default age distribution of vehicles. Vehicle type distributions within each category (see table below) were derived from the national average vehicle type distribution, obtained from Mobile6 and converted for use with MOVES (Source: http://www.epa.gov/otaq/models/moves/tools.htm). Mobile source emissions factors generally decrease with time; therefore, the 2016 emission factors can conservatively be used for analyses of projects occurring in years 2016 and later.

Vehicle Category	Vehicle Types included
Worker Commute	passenger cars and trucks (mix of diesel and gas from MOVES defaults)
Haul Truck	single-unit and combination long- and short-haul trucks (mix of diesel and gas from MOVES defaults)
Coach Bus	intercity buses (100% diesel)
GOV	light-duty trucks (100% diesel)
2.60%	Combination Short-haul Truck
2.66%	Combination Long-haul Truck

Calculation of Mileage for Government Owned Vehicles (GOVs)

Vehicle Type	# of vehicles	Mileage[1]	Total Annual Mileage
GOVs	24	200	115,200
GOVs Buses/Vans	10	200	48,000

[1] Fort Pickett is approx. 100 miles from Fort A.P. Hill. Assumes each government vehicle and bus/van driven 200 miles from Fort Pickett to Fort A.P. Hill for training and back 2 weekends/mo 12 mos/year.

Calculation of Mileage for Privately Owned Vehicles (POVs)

	Estimated Vehicles Entering USARC /Year					Miles/Vehicle/ Day[3]	Total POVs per Year	Total Miles per Year
	Daily	Weekend	Annual[1]	% of Employees that drive to Property	Adjusted Vehicles per year[2]			
Daily Employee POVs	41	0	10,660	100%	10,660	50	41	533,000
Weekend Reservists POVs	0	150	3,600	100%	3,600	50	0	180,000
TOTAL (POVs)								**713,000**

[1] The annual number of vehicles entering the facility per year: 41 POV Employee Vehicles/Day x 5 (day/wk) x 52 (wks/yr)

[2] Estimated maximum worst case scenario of 100% of employees commuting to the site in their personal vehicles

[3] Assumes 41 daily employees commuting to work at Fort Pickett. Assumes 150 reservists driving 50 miles roundtrip to/from Fort Pickett to pickup equipment. POVs are then parked at Fort Pickett and GOV equipment and buses/vans are driven from Fort Pickett to Fort A.P. Hill and back for training.

Calculation of Criteria Pollutant Emission Rates

				2016 Year Emission Factors														
				Fleet Vehicle Criteria Emission Factors (gm/mile)						Fleet Vehicle HAP Emission Factors (mg/mile)						GHG Emission Factors (gm/mile)		
Vehicle Category	Modeled Year	Number of Vehicles	Annual Mileage	CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Acrolein	Acetaldehyde	1,3-Butadiene	Benzene	Formaldehyde	MTBE	CO_2	CH_4	N_2O
Weekend Reservists GOVs	2016[1]	24	115,200	4.93	0.38	1.87	0.006	0.15	0.09	2.60	14.22	1.08	3.09	32.43	0.000	713	0.020	0.000
Weekend Reservists' GOV Buses/Vans	2016[2]	10	48,000	3.43	0.74	14.00	0.019	1.07	0.77	5.01	27.33	2.11	5.96	61.90	0.000	2182	0.032	0.000
Daily Employee POVs	2016[3]	41	533,000	6.46	0.17	0.63	0.009	0.09	0.04	0.13	1.99	0.90	6.21	2.53	0.000	447	0.009	0.000
Weekend Reservists POVs	2016[3]	150	180,000	6.46	0.17	0.63	0.009	0.09	0.04	0.13	1.99	0.90	6.21	2.53	0.000	447	0.009	0.000

[1] GOV emission factors are based on a mix of light duty truck factors (mix of diesel from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[2] GOV Buses/Vans emission factors are based on coach bus emission factors (mix of diesel from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[3] Worker commute emission factors are based on passenger cars and trucks (mix of diesel and gas from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

				Actual Criteria Pollutant Emissions[1]						Actual HAP Emissions						GHG Emissions			
Vehicle Category	Modeled Year	Number of Vehicles	Annual Mileage	CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Acrolein	Acetaldehyde	1,3-Butadiene	Benzene	Formaldehyde	MTBE	CO_2	CH_4	N_2O	CO_2e[2]
Weekend Reservists GOVs	2016	24	115,200	1,249	97.06	472.90	1.557	38.81	23.93	0.658	3.603	0.274	0.783	8.219	0.000	181,202	5.084	0.000	181,329
Weekend Reservists' GOV Buses/Vans	2016	10	48,000	362	78.39	1,478.32	2.003	112.63	80.85	0.529	2.886	0.223	0.629	6.537	0.000	230,851	3.347	0.000	230,934
Daily Employee POVs	2016	41	533,000	7,580	195.83	743.72	10.31	100.17	41.57	0.15	2.33	1.05	7.28	2.97	0.000	524,934	10.04	0.00	525,185
Weekend Reservists POVs	2016	150	180,000	2,560	66	251.2	3.48	33.83	14.04	0.05	0.79	0.35	2.46	1.00	0.000	177,276	3.39	0.00	177,361
TOTAL EMISSIONS (lb/yr)				**11,751**	**437**	**2,946**	**17.4**	**285**	**160.39**	**1.39**	**9.60**	**1.90**	**11.16**	**18.73**	**0.000**	**1,114,263**	**21.86**	**0.00**	**1,114,810**
TOTAL EMISSIONS (tpy)				**5.9**	**0.22**	**1.47**	**0.009**	**0.14**	**0.08**	**6.96E-04**	**0.005**	**0.001**	**0.006**	**0.009**	**0.000**	--	--	--	
TOTAL GHG EMISSIONS (metric tons/yr)				--	--	--	--	--	--	--	--	--	--	--	--	**505**	**0.010**	**0.000**	**506**

[1] Actual Emissions (lb/yr) = Emission Factor (gm/mile) x Annual Mileage x 0.0022 (lb/gm).

[2] Based on global warming potentials of 1 for CO2, 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Appendix D - Table 4
Fort A.P. Hill
Air Quality Emission Estimates- Construction

Emissions from Construction Worker Commuting

					Pollutant Emission Factors[1] (g/VMT)						HAP Emission Factors (mg/mile)						GHG Emission Factors (g/mi)			
Estimated Daily Commute Distance	Number of workers	Daily Commute Miles[3]	Months of Construction	Total Miles per Project[2]	CO	NO_x	VOC	PM_{10}	$PM_{2.5}$	SO_2	Acrolein	Acetalde-hyde	1,3-Butadiene	Benzene	Formalde-hyde	MTBE	CO_2	CH_4	N_2O	
Construction Worker	30	50	24	900,000	6.46	0.63	0.17	0.09	0.04	0.009	0.13	1.99	0.90	6.2	2.53	0.000	447	0.009	0.000	
Total					Criteria Pollutant Emissions (tons)						HAP Emissions (Pounds)						GHG Emissions (metric tons)			
					CO	NOx	VOC	PM_{10}	$PM_{2.5}$	SO_2	Acrolein	Acetalde-hyde	1,3-Butadiene	Benzene	Formalde-hyde	MTBE	CO_2	CH_4	N_2O	CO_2e[4]
					6.41	0.63	0.17	0.08	0.04	0.009	0.26	3.94	1.78	12.3	5.02	0.00	401	0.01	0.000	**401**
				Total	**6.41**	**0.63**	**0.17**	**0.08**	**0.04**	**0.009**	**0.26**	**3.94**	**1.78**	**12.3**	**5.02**	**0.00**	**401**	**0.01**	**0.000**	**401**

Notes:

[1] Worker commute emission factors are based on passenger cars and trucks (mix of diesel and gas from MOVES defaults) for year 2016 traveling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[2] Construction worker total miles calculated by: multiplying daily commute hours x months of construction x 25 (days per month); have assumed a 24-month construction period.

[3] Daily commute number includes both directions of commute

[4] Based on global warming potentials of 1 for CO2, 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Paving (Asphalt) Emissions

Acres to be paved	13.4	
Emissions Factor[1]	2.62	lbs ROG (VOC) /acre
Emissions from asphalt paving	**35.06**	**lbs VOC**
	0.018	**Tons VOC**

Note:

[1] Using equation in AP-42, Section 4.5, emissions factor from URBEMIS model.

Material Hauling

					Pollutant Emission Factors (g/VMT)[1]						HAP Emission Factors (mg/mile)						GHG Emission Factors (g/mi)		
Material Hauling	**Tons of Material**	**# of Trips[2]**	**Miles per Trip**	**Avg. Speed**	**CO**	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**Acrolein**	**Acetalde-hyde**	**1,3-Butadiene**	**Benzene**	**Formalde-hyde**	**MTBE**	**CO_2**	**CH_4**	**N_2O**
To Site	20	932	30	25	6.15	13.79	0.76	1.05	0.76	0.019	4.51	25.51	2.39	9.14	56.48	0.000	2,071	0.033	0.000
From Site	20	932	30	25	6.15	13.79	0.76	1.05	0.76	0.019	4.51	25.51	2.39	9.14	56.48	0.000	2,071	0.033	0.000

		Criteria Pollutant Emissions (Annual tons)						HAP Emissions (Pounds)						GHG Emissions (metric tons)			
		CO	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**Acrolein**	**Acetalde-hyde**	**1,3-Butadiene**	**Benzene**	**Formalde-hyde**	**MTBE**	**CO_2**	**CH_4**	**N_2O**	**CO_2e[3]**
	To Site	0.189	0.42	0.023	0.032	0.023	5.87E-04	0.28	1.57	0.147	0.56	3.48	0.000	57.78	9.20E-04	0.000	**57.80**
	From Site	0.189	0.42	0.023	0.032	0.023	5.87E-04	0.28	1.57	0.147	0.56	3.48	0.000	57.78	9.20E-04	0.000	**57.80**
	Total	**0.38**	**0.85**	**0.047**	**0.065**	**0.047**	**0.001**	**0.56**	**3.14**	**0.29**	**1.13**	**6.96**	**0.000**	**115.56**	**0.002**	**0.000**	**115.60**

[1] Haul truck emission factors are based on single-unit and combination long- and short-haul trucks (mix of diesel and gas from MOVES defaults) for year 2016 travelling at an average speed of 25 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[2] Assumes service trucks (2) and delivery (2) trucks make 2 deliveries per week for approximately 24 months of the project, dump trucks (2) make 5 deliveries per day for 10 days, and concrete (1) and asphalt (1) trucks make 5 deliveries per day for 10 days over the project duration.

[3] Based on global warming potentials of 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Construction Activities - Fugitive Dust Emissions

	PM Tons/ Acre-month[1]	**Acres worked**	**Months**	**PM10 Emissions (tons)[3]**	**PM2.5 Emissions (Ton)[4]**
Average Conditions	0.11	1.46	1	0.16	0.02

[1] Emission factors from WRAP Fugitive Dust Handbook, September 2006, Table 3-2. Conservatively assumes no control measures will be used.
[2] Assumes 0.25 acres will be disturbed at a time for a total of approx. 35 acres disturbed over 24 months of construction.
[3] Emissions from Grading = Acres of Area Graded * Months of Grading * EF = Emissions from Grading
[4] The PM2.5/PM10 ratio for fugitive dust from construction and demolition activities is 0.1.(WRAP, section 3.4.1)

Demolition Emissions

	PM10 (tons/ac/mo)[1]	Acres worked[2]	Months of Construction	**PM10 Emissions (tons)**	**PM2.5 Emissions (Ton)[3]**
Demolition Emissions Average Cond	0.11	0.000125	1	0.0000	0.00000

Note:
[1] Emission factor from WRAP Fugitive Dust Handbook, September 2006, Table 3-2.
[2] Assumes 0.000125 acres disturbed at a time for a total of approx. 0.003 acres disturbed over 24 months of construction.
[3] The PM2.5/PM10 ratio for fugitive dust from construction and demolition activities is 0.1.(WRAP, section 3.4.1)

Construction Summary Table

	CO	**NOx**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**HAPs**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
	tons	tons	tons	tons	tons	tons	tons	metric tons	metric tons	metric tons	metric tons
Construction Worker Commute	6.41	0.63	0.17	0.08	0.04	0.009	0.012	401	0.008	0.000	401.4
Paving (Asphalt)	--	--	0.018	--	--	--	--	--	--	--	--
Clearing	--	--	--	0.00	0.00	--	--	--	--	--	--
Equipment[1]	5.43	12.58	0.99	0.85	0.83	0.02	0.40	1,504	0.16	0.024	1,515
Material Hauling	0.38	0.85	0.047	0.065	0.047	1.17E-03	6.04E-03	115.56	0.002	0.0000	115.60
Fugitive Dust Emissions	--	--	--	0.16	0.02	--	--	--	--	--	--
Demolition Emissions	--	--	--	0.00	0.00	--	--	--	--	--	--
Project Construction Totals (tons)	**12.22**	**14.06**	**1.22**	**1.16**	**0.93**	**0.025**	**0.42**	**--**	**--**	**--**	**--**
Project Construction Totals (metric tons)	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2,020**	**0.17**	**0.024**	**2,032**

[1] Equipment emissions obtained from Table 4. Emissions have been multiplied by 2 to account for the 24 month construction period.

Appendix D - Table 5
Fort A.P. Hill
Air Quality Emission Estimates- Diesel Off-road Construction Vehicles
Calculation of Criteria Pollutant Emission Rates

Emissions Estimate Based on Engine Rating and Operating Time (All Diesel-fired Equipment)

Equipment Data[1]										*Emission Parameters*			*Criteria Pollutant Emissions Factors*[3]						*GHG Emission Factors*[3]			*Annual Actual Emissions*[7]									
Vehicle/Equipment Type	Equipment Category	Engine Type	Number of Units	Engine Rating (Per Unit) (hp)	Model Year	Model Year Site (S)/ Default (D)	Operating Time (Per unit) (hr/yr)	Total Operating Time[2] (hr/yr)	Source for Operating Time Site (S)/ Default (D)	Heat Input (MMBtu/yr)	Load Factor[3] (Percent of Max. Power)	SCC[4]	VOC Emission Factor (g/hp-hr)	CO Emission Factor (g/hp-hr)	NOx Emission Factor (g/hp-hr)	PM-10 Emission Factor (g/hp-hr)	PM-2.5 Emission Factor (g/hp-hr)	SO_2 Emission Factor (g/hp-hr)	CO_2 Emission Factor (kg/MMBtu)	CH_4 Emission Factor (g/MMBtu)	N_2O Emission Factor (g/MMBtu)	VOC Emissions (lb/yr)	CO Emissions (lb/yr)	NOx Emissions (lb/yr)	PM-10 Emissions (lb/yr)	PM-2.5 Emissions (lb/yr)	SO_2 Emissions (lb/yr)	CO_2 Emissions (metric tons/yr)	CO_2 Emissions (metric tons/yr)	N_2O Emissions (metric tons/yr)	CO_2e[8] (metric tons/yr)
Backhoe	Construction	Reciprocating Diesel	1	100	2013	D	1040	1040	D	728	21%	2270002066	1.11	6.57	5.41	0.97	0.94	0.006	73.96	4.00	0.6	53.45	316.4	260.5	46.71	45.31	0.30	11.31	0.003	4.37E-04	11.51
Compactor	Construction	Diesel	1	11	2013	D	1040	1040	D	80.08	43%	2270002009	0.71	4.51	5.12	0.52	0.50	0.005	73.96	4.00	0.6	7.70	48.92	55.54	5.64	5.47	0.059	2.55	0.000	4.80E-05	2.57
Dump Trucks	Construction	Diesel	1	175	2013	D	1040	1040	D	1,274	21%	2270002078	0.87	3.42	5.85	0.66	0.64	0.006	73.96	4.00	0.6	73.32	288.2	493.0	55.62	53.95	0.47	19.79	0.005	7.64E-04	20.14
Cranes	Construction	Diesel	1	300	2013	D	1040	1040	D	2,184	43%	2270002045	0.22	0.63	3.02	0.13	0.13	0.005	73.96	4.00	0.6	65.08	186.4	893.4	38.46	37.30	1.33	69.46	0.009	1.31E-03	70.07
Bulldozers	Construction	Diesel	1	1,000	2013	D	1040	1040	D	7,280	59%	2270002069	0.29	1.25	4.59	0.20	0.19	0.005	73.96	4.00	0.6	392.4	1,691	6,210	270.6	262.5	6.22	317.7	0.029	4.37E-03	319.7
Paving Machine	Construction	Diesel	1	175	2013	D	1040	1040	D	1,274	59%	2270002021	0.27	1.33	3.51	0.28	0.27	0.005	73.96	4.00	0.6	63.93	314.9	831.1	66.30	64.31	1.11	55.59	0.005	7.64E-04	55.95
Concrete Truck	Construction	Reciprocating	1	300	2013	D	1040	1040	D	2,184	59%	2270002051	0.16	0.63	1.98	0.12	0.12	0.004	73.96	4.00	0.6	64.94	255.7	803.7	48.71	47.25	1.66	95.30	0.009	1.31E-03	95.91
Air Compressor	Construction	Diesel	2	75	2013	D	1040	2080	D	1,092	43%	2270006015	0.36	2.41	4.34	0.34	0.33	0.005	73.96	4.00	0.6	53.25	356.5	641.9	50.29	48.78	0.78	34.73	0.004	6.58E-04	35.03
Front End Loader	Construction	Diesel	1	100	2013	D	1040	1040	D	728	59%	2270002060	0.32	3.23	3.68	0.43	0.42	0.005	73.96	4.00	0.6	43.30	437.0	497.9	58.18	56.43	0.70	31.77	0.003	4.37E-04	31.97
Skid Steer Loader	Construction	Reciprocating	1	50	2013	D	1040	1040	D	364	21%	2270002072	0.97	4.45	5.25	0.72	0.70	0.006	73.96	4.00	0.6	23.36	107.1	126.4	17.34	16.82	0.15	5.65	0.001	2.18E-04	5.75
Paver/Roller	Construction	Reciprocating	1	100	2013	D	1040	1040	D	728	59%	2270002003	0.30	3.17	3.56	0.41	0.40	0.005	73.96	4.00	0.6	40.59	428.9	481.7	55.47	53.81	0.69	31.77	0.003	4.37E-04	31.97
Clearing Equipment (Roller)	Construction	Reciprocating	1	100	2013	D	1040	1040	D	728	59%	2270002015	0.32	3.23	3.68	0.43	0.42	0.005	73.96	4.00	0.6	43.30	437.0	497.9	58.18	56.43	0.70	31.77	0.003	4.37E-04	31.97
Excavators	Construction	Reciprocating	1	100	2013	D	1040	1040	D	728	59%	2270002030	0.38	3.43	4.03	0.48	0.47	0.005	73.96	4.00	0.6	51.41	464.1	545.3	64.94	63.00	0.70	31.77	0.003	4.37E-04	31.97
Concrete Saw (Ramp and Lot)	Construction	Reciprocating	1	40	2013	B	1040	1040	D	291.2	59%	2270002039	0.28	1.75	4.47	0.30	0.29	0.005	73.96	4.00	0.6	15.15	94.71	241.9	16.24	15.75	0.29	12.71	0.001	1.75E-04	12.79
TOTAL EMISSIONS (lb/yr)										--	--	--	--	--	--	--	--	--	--	--	--	**991**	**5,427**	**12,580**	**893**	**827**	**15.18**	--	--	--	--
TOTAL EMISSIONS (tpy)																						**0.50**	**2.71**	**6.29**	**0.43**	**0.41**	**0.008**	--	--	--	--
TOTAL EMISSIONS (metric tons/yr)																						--	--	--	--	--	--	**752**	**0.079**	**0.012**	**757**

[1] Though some welding may be done onsite, it will be minimal and the emissions have been ruled negligible

[2] Assumed each piece of equipment operates 4 hrs/day, 5 days per week, 52 weeks per year.

[3] Load factor is the fraction of available power at which the engine normally operates. Load factors obtained from the EPA Nonroad Model

[4] SCC obtained EPA Nonroad Model

[5] Emission factors are obtained from USEPA, NonRoad Model. Run July 6, 2013 for the year 2013 for the entire nation. Assumptions: Fuel RVP: 12.5, O wt.%: 0.0, Gas Sulfur %: 0.0257, Diesel

[6] Emission factors obtained from Mandatory Reporting of Greenhouse Gases; Final Rule, TABLE C–1 TO SUBPART C OF PART 98

[7] Annual Actual Emissions (lb/yr) = Engine Rating (hp) x Loading Factor (%) x Operating Time per Unit (hr/yr) x Number of Units x Emission Factor (g/hp-hr) x Conversion Factor (0.002205 lb/g)

[8] Based on global warming potentials of 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

2.0 HAP Emissions From Diesel

HAP constituent emission factors obtained from U.S. Environmental Protection Agency, SPECIATE Version 4.4 , Speciation for Medium Duty Trucks (Profile # 4674), Speciation based on tests preformed in 1996
Speciation for construction equipment was not available so the medium duty truck speciation has been used here to estimate HAP emissions. http://www.epa.gov/ttn/chief/software/speciate/index.html

Constituent CAS	Constituent Name	Factor (Weight% VOC)	Actual[1] (lb/yr)	Actual (tons/yr)
106-99-0	1,3-butadiene	0.12	**1.17**	**5.9E-04**
540-84-1	2,2,4-trimethylpentane	0.47	**4.69**	**2.3E-03**
75-07-0	Acetaldehyde	15.04	**150.0**	**7.9E-02**
107-02-8	Acrolein (2-propenal)	1.30	**12.85**	**6.4E-03**
71-43-2	Benzene	1.05	**10.36**	**5.2E-03**
100-41-4	Ethylbenzene	0.18	**1.78**	**8.9E-04**
50-00-0	Formaldehyde	8.51	**84.30**	**4.2E-02**
108-38-3; 106-42-3	M & p-xylene	0.89	**8.81**	**4.4E-03**
78-93-3	Methyl ethyl ketone (2-butanone)	2.86	**28.35**	**1.4E-02**
91-20-3	Naphthalene	0.24	**2.33**	**1.2E-03**
95-47-6	O-xylene	0.32	**3.14**	**1.6E-03**
123-38-6	Propionaldehyde	5.34	**52.9**	**2.6E-02**
108-88-3	Toluene	1.52	**15.05**	**7.5E-03**
132-64-9	Dibenzofuran , also noted as "DBZFUR"	0.011	**0.11**	**5.4E-05**
98-86-2	Acetophenone	1.95	**19.28**	**9.6E-03**
Total:			**403.1**	**0.20**

[1] Emission Factor (Weight% VOC) x VOC Emissions from Diesel Off-Road Equipment / 100 = Actual HAP Emission (lb/yr)

COMMONWEALTH of VIRGINIA

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May 12, 2020

Fort A.P. Hill Directorate of Public Works
Environmental and Natural Resources Division
19952 North Range Road
Fort A.P. Hill, Virginia 22427-3123
Via email: usarmy.aphill.imcom-northeast.mail.ernd@mail.mil

RE: Amended Federal Consistency Determination, Equipment Concentration Site, U.S. Army Reserve, Fort A.P. Hill, Caroline County, DEQ 20-043F

Dear Director:

The Commonwealth of Virginia has completed its review of the Federal Consistency Determination (FCD) for the above-referenced project. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of FCDs submitted under the Coastal Zone Management Act and responding to appropriate officials on behalf of the Commonwealth. DEQ responded to a Draft Environmental Assessment (EA) for the original proposal on February 9, 2017 (DEQ #17-009F) and a Federal Consistency Determination (FCD) on January 12, 2017 (DEQ #16-225F). A March 2020 Amendment to the Final EA for the project was submitted to DEQ for review and response. DEQ responded on April 27, 2020, under the above-referenced DEQ project number. This is in response to the FCD contained in the March 2020 Amendment to the Final EA (Appendix C). The following agencies and locality participated in this review:

Department of Environmental Quality
Department of Game and Inland Fisheries
Department of Conservation and Recreation
Department of Health
Caroline County

In addition, the Marine Resources Commission, Department of Historic Resources, and the George Washington Regional Commission were invited to comment on the proposal.

PROJECT DESCRIPTION

The Department of the Army, U.S. Army Reserve (USAR) is currently constructing an equipment concentration site (ECS) at Fort A.P. Hill in Caroline County, Virginia. Construction is now approximately 70 percent complete. However, the project footprint has shifted to the east to an approximately 10-acre parcel that was not covered under the 2016 FCD. The originally proposed footprint of the new ECS remains the same, but has shifted east to include a 10-acre parcel. Therefore, the FCD has been amended to include the additional 10-acre parcel and is the subject of this review.

The ECS is under construction on approximately 41 acres of land northwest of the intersection of Shackleford Road and A.P. Hill Drive. The ECS will include a 27,443-square-foot tactical equipment maintenance facility (TEMF), a 55,000-square-foot general purpose warehouse, a bi-level equipment loading ramp, and parking areas for military equipment and privately owned vehicles. The Proposed Action also includes construction of stormwater management features. Additional construction activities consist of paving, fencing, making general site improvements, and extending utilities to serve the new facilities. Some grading and leveling of land is required on site. Disturbed areas that are not within the footprint of the proposed buildings or parking areas would be landscaped and used to meet security setback requirements. Buildings would comply with the Americans with Disabilities Act (ADA) and the Leadership in Energy and Environmental Design (LEED) Silver standard, feature low-impact development, and consider renewable energy initiatives.

PUBLIC PARTICIPATION

In accordance with Title 15, Code of Federal Regulations (CFR), §930.42, the public was invited to participate in the review of the FCD. Public notice of this proposed action was published in the OEIR Program Newsletter and on the DEQ website from April 27, 2020 through May 11, 2020. No public comments were received in response to the notice.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the Coastal Zone Management Act of 1972 (CZMA), as amended, and the federal consistency regulations implementing the CZMA (15 CFR, Part 930, Subpart C, Section 930.30 *et seq*.), federal activities located inside or outside of Virginia's designated coastal management area that can have reasonably foreseeable effects on coastal resources or coastal uses must be implemented in a manner consistent, to the maximum extent practicable, with the Virginia Coastal Zone Management (CZM) Program. The Virginia CZM Program consists of a network of programs administered by several agencies. The DEQ coordinates the review of FCDs with agencies administering the enforceable and advisory policies of the Program.

FEDERAL CONSISTENCY CONCURRENCE

Based on our review of the consistency determination and the comments submitted by agencies administering the enforceable policies of the Virginia CZM Program, DEQ concurs that the proposal is consistent to the maximum extent practicable with the Program provided all applicable permits and approvals are obtained as described below. If, prior to implementation, the proposed activities should change significantly and any of the enforceable policies of the Virginia CZM Program would be affected, pursuant to 15 CFR, Part 930, Subpart C, §930.46(a), USAR must submit supplemental information to DEQ for review and approval. However, other state approvals which may apply to this project are not included in this consistency concurrence. Therefore, the applicant must ensure that this project is constructed and operated in accordance with all applicable federal, state and local laws and regulations.

FEDERAL CONSISTENCY ANALYSIS

According to information in the FCD, the proposed project would have no effect on the following enforceable policies: fisheries management, subaqueous lands management, wetlands management, dunes management, point source pollution control; and shoreline sanitation. The agencies responsible for the administration of the enforceable policies of the Virginia CZM Program generally agree with the determination. USAR must ensure that the proposed action is consistent with the aforementioned policies. In addition, DEQ encourages USAR to consider the effects of the proposal on the advisory policies of the Virginia CZM Program in accordance with 15 CFR §930.39(c). The analysis which follows responds to the discussion of the enforceable policies of the Virginia CZM Program that apply to this project and review comments submitted by agencies that administer the enforceable policies.

1. Fisheries Management. According to the FCD (page 9), the Project Area does not contain finfish or shellfish resources or fisheries.

1(a) Agency Jurisdiction. The fisheries management enforceable policy is administered by the Virginia Marine Resources Commission (VMRC) (Virginia Code §28.2-200 to §28.2-713) and the Department of Game and Inland Fisheries (DGIF) (Virginia Code §29.1-100 to §29.1-570). In addition, the Virginia Department of Health (VDH) Division of Shellfish Sanitation (DSS) is responsible for protecting the health of the consumers of molluscan shellfish and crustacea by ensuring that shellfish growing waters are properly classified for harvesting, and that molluscan shellfish and crustacea processing facilities meet sanitation standards.

1(b) Agency Findings.

(i) Virginia Marine Resources Commission

VMRC did not respond to the request for comments on the Proposed Action.

(ii) Department of Game and Inland Fisheries

DGIF did not indicate that the amended project would impact fisheries resources under its jurisdiction.

(iii) Virginia Department of Health

VDH-DSS did not comment on the proposal.

1(c) Conclusion. The project is consistent to the maximum extent practicable with the fisheries management enforceable policy of the Virginia CZM Program, provided project activities adhere to erosion and sediment controls.

For additional information regarding these comments, contact VMRC, Randy Owen at (757) 247-2251 or randy.owen@mrc.virginia.gov, DGIF, Amy Ewing at (804) 367-2211 or amy.ewing@dgif.virginia.gov, and/or VDH-DSS, Adam Wood at (804) 864-7479 or adam.wood@vdh.virginia.gov.

2. Wetlands Management. According to the FCD (page 9), the Project Area does not contain tidal wetlands.

2(a) Agency Jurisdiction. The wetlands management enforceable policy is administered by the Virginia Marine Resources Commission (tidal wetlands) (Virginia Code §28.2-1301 through 28.2-1320) and the Department of Environmental Quality through the Virginia Water Protection Permit program (tidal and non-tidal wetlands) (Virginia Code §62.1-44.15:20 and Water Quality Certification pursuant to Section 401 of the Clean Water Act).

2(b) Agency Findings. The Virginia Water Protection (VWP) Permit program at the DEQ Northern Regional Office (NRO) did not indicate that surface waters or wetlands would be impacted at the 10-acre parcel.

2(c) Requirements. A VWP permit from DEQ may be required should the project change and impacts to jurisdictional waters are anticipated. Upon receipt of a Joint Permit Application (JPA) for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP Permit program regulations and guidance.

2(d) Conclusion. The Proposed Action is consistent to the maximum extent practicable with the wetlands management enforceable policy of the Virginia Coastal Zone Management (CZM) Program.

For additional information, contact DEQ-NRO, Trisha Beasley at (703) 583-3940 or trisha.beasley@deq.virginia.gov.

3. Nonpoint Source Pollution Control. According to the FCD (page 10), an Erosion and Sediment Control Plan and Stormwater Management Plan would be required under the Preferred Alternative. DEQ issued a Virginia Stormwater Management Program permit to the contractor.

3(a) Agency Jurisdiction. The DEQ Office of Stormwater Management (OSWM) administers the nonpoint source pollution control enforceable policy of the Virginia CZM Program through Virginia Erosion and Sediment Control Law and *Regulations* (*VESCL&R*) and Virginia Stormwater Management Law and *Regulations* (*VSWML&R*). In addition, DEQ is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land disturbing activities under the Virginia Stormwater Management Program.

3(b) Requirements.

(i) Erosion and Sediment Control and Stormwater Management Plans

USAR and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with *VESCL&R* and *VSWML&R,* including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 10,000 square feet (2,500 square feet or more in a Chesapeake Bay Preservation Area) would be regulated by *VESCL&R.* Accordingly, the applicant must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations.

Land-disturbing activities that result in the total land disturbance of equal to or greater than 1 acre (2,500 square feet in Chesapeake Bay Preservation Area) would be regulated by *VSWML&R.* Accordingly, the applicant must prepare and implement a Stormwater Management (SWM) plan to ensure compliance with state law and regulations. The ESC/SWM plan is submitted to DEQ-NRO, which serves the area where the project is located, for review for compliance. The applicant is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: VESCL 62.1-44.15 *et seq*.]

(ii) General Permit for Discharges of Stormwater from Construction Activities (VAR10)

The owner or operator of projects involving land-disturbing activities of equal to or

greater than one acre is required to apply for registration coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater pollution prevention plan (SWPPP). Construction activities requiring registration also include land disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan of development will collectively disturb equal to or greater than one acre

- The SWPPP must be prepared prior to submission of the registration statement for coverage under the General Permit.
- The SWPPP must address water quality and quantity in accordance with the VSMP Permit Regulations.

General information and registration forms for the general permit are available at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx. [Reference: Virginia Stormwater Management Act 62.1-44.15 *et seq.*; VSMP Permit Regulations 9 VAC 25-880 *et seq.*].

3(c) Recommendation. DEQ-NRO recommends that consideration should be given to using permeable paving for parking areas and walkways where appropriate, and that denuded areas are promptly revegetated following construction.

3(d) Conclusion. The Proposed Action is consistent to the maximum extent practicable with the nonpoint source pollution control enforceable policies of the Virginia CZM Program, provided the required permits and authorizations are obtained and complied with.

4. Air Pollution Control. According to the FCD (page 10), the Preferred Alternative would result in air emissions from stationary and mobile sources; however, it would not result in significant impacts on air quality because the estimated emissions are well below regulatory thresholds. Therefore, the Preferred Alternative would be in compliance and consistent with the State Implementation Plan and National Ambient Air Quality Standards.

4(a) Agency Jurisdiction. The DEQ air program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board at DEQ (Virginia Code §10-1.1300 through §10.1-1320).

4(b) Agency Findings. According to the DEQ Air Division, the project site is located in an ozone (O_3) attainment area.

4(c) Recommendation. USAR is encouraged to take all reasonable precautions to limit emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), principally by controlling or limiting the burning of fossil fuels.

4(d) Requirements. The following regulatory requirements will apply to the proposed action.

(i) Fugitive Dust

During construction fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution*. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(ii) Open Burning

If project activities include the burning of construction or demolition material, this activity must meet the requirements under 9 VAC 5-130 *et seq.* of the *Regulations* for open burning, and it may require a permit. Should open burning or use of special incineration devices be employed in the disposal of land-clearing debris during construction, the operation would be subject to the *Open Burning Regulation* (9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100). The *Regulations* for open burning provide for, but do not require, the local adoption of a model ordinance concerning open burning. USAR should contact Caroline County fire officials to determine what local requirements, if any, exist.

(iii) Fuel Burning Equipment

Should the structures require the installation of fuel burning equipment (e.g. boilers and generators), a permit may be required prior to beginning construction of the facility (9 VAC 5-80, Article 6, Permits for New and Modified Sources). USAR should contact DEQ-NRO for guidance on whether this provision applies.

4(e) Conclusion. The Proposed Action is consistent to the maximum extent practicable with the air pollution control enforceable policy of the Virginia CZM Program, provided any required permits are obtained and complied with.

5. Coastal Lands Management. The FCD (page 9) states that Caroline County, Fort A.P. Hill, and the project site are subject to the Chesapeake Bay Preservation Act and regulations. However, there are no Resource Protection Areas or Resource Management Areas on the project site.

5(a) Agency Jurisdiction. The DEQ Office of Watersheds and Local Government Assistance Programs (OWLGAP) administers the coastal lands management

enforceable policy of the Virginia CZM Program which is governed by the Chesapeake Bay Preservation Act (Bay Act) (Virginia Code §62.1-44.15 *et seq*.) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (*Regulations*) (9 VAC 25-830-10 *et seq*.).

5(b) Chesapeake Bay Preservation Areas. DEQ-OWLGAP notes that, in Caroline County, the areas protected by the Bay Act require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include:

- tidal wetlands;
- certain non-tidal wetlands;
- tidal shores; and
- a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow.

RMAs in Caroline County, which require less stringent performance criteria than RPAs, include floodplains, highly erodible soils (including steep slopes), highly permeable soils, and non-tidal wetlands not included in the RPA.

5(c) Agency Findings. DEQ-OWLGAP finds that the project site does not include lands analogous to RPA or RMA. Therefore, the project is not subject to the Chesapeake Bay Preservation Act or *Regulations*.

5(d) Conclusion. The Proposed Action is consistent to the maximum extent practicable with the coastal lands management enforceable policy of the Virginia CZM Program.

For additional information, contact DEQ-OWLGAP, Daniel Moore at (804) 698-4520 or daniel.moore@deq.virginia.gov.

ADDITIONAL ENVIRONMENTAL CONSIDERATIONS

In addition to the enforceable policies of the Virginia CZM Program, comments were provided with respect to other applicable requirements and recommendations. The applicant must ensure that this project is constructed and operated in accordance with all applicable federal, state, and local laws and regulations.

1. Floodplain Management. The EA (page 3-3) states that a review of the Federal Emergency Management Agency Flood Insurance Rate Map numbers 51033C0250C and 51033C0100C indicated that the Project Area is not within a 500-year floodplain. Therefore, there would be no impacts on floodplains

1(a) Agency Jurisdiction. The DCR Division of Dam Safety and Floodplain Management (DSFM) is the lead coordinating agency for the Commonwealth's floodplain management program and the National Flood Insurance Program (Executive

Oder 45). The National Flood Insurance Program (NFIP) is administered by the Federal Emergency Management Agency (FEMA), and communities who elect to participate in this voluntary program manage and enforce the program on the local level through that community's local floodplain ordinance. Each local floodplain ordinance must comply with the minimum standards of the NFIP, outlined in 44 CFR 60.3; however, local communities may adopt more restrictive requirements in their local floodplain ordinance, such as regulating the 0.2% annual chance flood zone (shaded Zone X).

1(b) Requirements. All development within a Special Flood Hazard Area (SFHA) or floodplain, as shown on the locality's Flood Insurance Rate Map (FIRM), must be permitted and comply with the requirements of the local floodplain ordinance. Projects conducted by federal agencies within the SFHA must comply with federal Executive Order 11988: Floodplain Management.

DCR's Floodplain Management Program does not have regulatory authority for projects in the SFHA. The applicant/developer must contact the local floodplain administrator for an official floodplain determination and comply with the community's local floodplain ordinance, including receiving a local permit. Failure to comply with the local floodplain ordinance could result in enforcement action from the locality. USAR is encouraged to reach out to the local floodplain administrator to ensure compliance with the local floodplain ordinance.

1(c) Recommendations. DCR recommends USAR access the Virginia Flood Risk Information System (VFRIS) at www.dcr.virginia.gov/vfris to find flood zone information. Local floodplain administrator contact information may be found on DCR's Local Floodplain Management Directory at www.dcr.virginia.gov/dam-safety-and-floodplains/floodplain-directory.

2. Solid and Hazardous Wastes and Hazardous Materials. According to the EA (pages 3-16 and 3-17), there is no evidence of recognized environmental conditions in connection with the Project Area. Construction of the new ECS is expected to have short-term, minor, direct, adverse impacts on hazardous substances because some petroleum products would be used to maintain construction equipment and stored or disposed of as a result of proposed construction activities. Before construction began at the Project Area, a spill prevention, control, and countermeasures plan was prepared and it will continue to be followed to minimize occurrences of spills and provide procedures for cleaning up spills that may occur. Operation of the new ECS is expected to have long-term, minor intensity, direct, adverse impacts on the environment from the use of hazardous substances and the disposal of hazardous waste associated with vehicle maintenance.

2(a) Agency Jurisdiction. On behalf of the Virginia Waste Management Board, the DEQ Division of Land Protection and Revitalization (DEQ-DLPR) is responsible for carrying out the mandates of the Virginia Waste Management Act (Virginia Code §10.1-1400 *et seq*.), as well as meeting Virginia's federal obligations under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental

Response Compensation Liability Act (CERCLA), commonly known as Superfund.

Virginia:

- Virginia Waste Management Act, Virginia Code § 10.1-1400 *et seq.*
- *Virginia Solid Waste Management Regulations*, 9 VAC 20-81 (9 VAC 20-81-620 applies to asbestos-containing materials)
- *Virginia Hazardous Waste Management Regulations*, 9 VAC 20-60 (9 VAC 20-60-261 applies to lead-based paints)
- *Virginia Regulations for the Transportation of Hazardous Materials*, 9 VAC 20-110.

Federal:

- Resource Conservation and Recovery Act, 42 U.S. Code sections 6901 *et seq.*
- U.S. Department of Transportation *Rules for Transportation of Hazardous Materials*, 49 *Code of Federal Regulations*, Part 107
- Applicable rules contained in Title 40, *Code of Federal Regulations*.

DEQ-DLPR also administers laws and regulations on behalf of the State Water Control Board governing Petroleum Storage Tanks (Virginia Code §62.1-44.34:8 *et seq*.), including Aboveground Storage Tanks (9 VAC 25-91 *et seq*.) and Underground Storage Tanks (9 VAC 25-580 *et seq*. and 9 VAC 25-580-370 *et seq*.), also known as 'Virginia Tank Regulations', and § 62.1-44.34:14 *et seq*. which covers oil spills.

2(b) Agency Findings. DEQ-DLPR staff conducted a search of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity (500-foot radius) to the project area. DLPR search did not identify any waste sites in close proximity which might impact the project.

2(c) Requirements. Any soil, sediment or groundwater that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. All construction waste must be characterized in accordance with the *Virginia Hazardous Waste Management Regulations* prior to management at an appropriate facility.

2(d) Recommendations. DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

For additional questions or further information regarding waste comments, contact DEQ-DLPR, Carlos Martinez at (804) 698-4575 or carlos.martinez@deq.virginia.gov.

3. Pesticides and Herbicides. DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance should be in accordance with the

principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used to the extent feasible. Contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information.

4. Natural Heritage Resources. The EA does not include a discussion of potential project impacts on natural heritage resources.

4(a) Agency Jurisdiction.

(i) The Virginia Department of Conservation and Recreation's (DCR) Division of Natural Heritage (DNH).

DNH's mission is conserving Virginia's biodiversity through inventory, protection and stewardship. The Virginia Natural Area Preserves Act (Virginia Code §10.1-209 through 217), authorizes DCR to maintain a statewide database for conservation planning and project review, protect land for the conservation of biodiversity, and protect and ecologically manage the natural heritage resources of Virginia (the habitats of rare, threatened and endangered species, significant natural communities, geologic sites, and other natural features).

(ii) The Virginia Department of Agriculture and Consumer Services (VDACS).

The Endangered Plant and Insect Species Act of 1979 (Virginia Code Chapter 39 §3.1-1020 through 1030) authorizes VDACS to conserve, protect and manage endangered and threatened species of plants and insects. Under a Memorandum of Agreement established between VDACS and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

4(b) Agency Findings.

(i) Mill Creek Slopes Conservation Site

According to the information currently in DCR files, the Mill Creek Slopes Conservation Site is located within the project site. The Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resources of concern at this site are:

Coastal Plain/Piedmont Acidic Seepage Swamp G3?/S3/NL/NL
Acer rubrum-Nyssa sylvatica-Magnolia virginiana-Viburnum nudum-Osmunda cinnamomea – Woodwardia areolata Forest

See DCR-DNH comments attached for more detailed information on these resources.

(ii) Ecological Cores

DCR-DNH finds that the proposed project will fragment an Ecological Core C2 as identified in the Virginia Natural Landscape Assessment (https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection. Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species. Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer at http://vanhde.org/content/map. See detailed DCR-DNH comments attached for additional information.

(iii) State-listed Plant and Insect Species

DCR-DNH finds that the activity will not affect any documented state-listed plants or insects at the site.

(iv) State Natural Area Preserves

DCR files do not indicate the presence of any State Natural Area Preserves under the agency's jurisdiction in the project vicinity.

4(c) Recommendations.

(i) Mill Creek Slopes Conservation Site

To minimize adverse impacts to the Coastal Plain/Piedmont Acidic Seepage Swamp as a result of project activities, DCR-DNH recommends:

- avoiding development within 100 meters of the natural heritage resource (Figure 1) and
- implementing and strictly adhering to applicable state and local erosion and sediment control and stormwater management laws and regulations.

(ii) Ecological Cores

DCR-DNH recommends the implementation of measures to minimize edge in remaining fragments, retain natural corridors that allow movement between fragments, and designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns).

(iii) Natural Heritage Resources

Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes or six months pass before the project is implemented, since new and updated information is continually added to the Biotics Data System.

5. Wildlife Resources and Protected Species. According to the EA (page 3-4), there are no known federally-listed threatened or endangered plants or animals within the Project Area. The state-listed endangered Tri-colored bat was detected within the Project Area during acoustic surveys conducted on June 9 and 10, 2016. However, state conservation measures apply to known maternity roost trees and winter hibernacula, which do not occur within the Project Area.

5(a) Agency Jurisdiction. The Virginia Department of Game and Inland Fisheries (DGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state- or federally-listed endangered or threatened species, but excluding listed insects (Virginia Code, Title 29.1). DGIF is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S. Code §661 *et seq*.) and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce or compensate for those impacts. For more information, see the DGIF website at *www.dgif.virginia.gov*.

5(b) Agency Findings. DGIF documents the state-listed endangered Little brown bat and Tri-colored bat from the project area. In addition, the project site is located within close proximity of historic and/or active bald eagle nests.

5(c) Recommendations.

(i) Little Brown Bat and Tri-Colored Bat

DGIF recommends that all tree removal adhere to a time-of-year restriction from April 1 through October 1 of any year.

(ii) Bald Eagles

Use the Center for Conservation Biology (CCB) Eagle Nest Locator to determine if any active eagle nests are known from the project area to ensure protection of bald eagles in compliance with the Bald and Golden Eagle Act. If active bald eagle nests have been documented from the project area, conduct project activities in a manner consistent with state and federal guidelines for protection of bald eagles; and coordinate, as indicated, with the U.S. Fish and Wildlife Service regarding possible impacts upon bald eagles or the need for a federal bald eagle take permit.

(iii) General Protection of Wildlife Resources

DGIF offers the following recommendations to minimize the adverse impacts of the project development on wildlife resources:

- Adhere to the currently approved Integrated Natural Resources Management Plan for Fort AP Hill.
- Avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable.
- Maintain undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams.
- Maintain wooded lots to the fullest extent possible.
- Adhere to a time-of-year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year for all tree removal and ground clearing.
- Adhere to erosion and sediment controls during ground disturbance.
- Use matting made from natural/organic materials such as coir fiber, jute, and/or bur-lap to minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting.
- Design stormwater controls to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

DGIF generally does not support proposals to mitigate wetland impacts through the construction of stormwater management ponds, nor does it support the creation of in-stream stormwater management ponds.

6. Public Water Supply. According to the EA (page 3-15), drinking water is provided by groundwater wells. Production and distribution of potable water is provided by American Water. Wastewater services are also provided by American Water.

6(a) Agency Jurisdiction. Virginia Department of Health (VDH) Office of Drinking Water (ODW) reviews projects for the potential to impact public drinking water sources (groundwater wells, springs and surface water intakes). VDH administers both federal and state laws governing waterworks operation.

6(b) Agency Findings. VDH-ODW finds that there are four public groundwater wells within a 1-mile radius of the project site at AP Hill, including Well PWAT 34 Long Street, Well PWAT 36-Arena #1, Well PWAT 36-Arena #2, and Well PWAT 39-Davis #2.

There are no surface water intakes located within a 5-mile radius of the project area and the project is not within the watershed of any public surface water intakes.

6(c) Requirement. Potential impacts to public water and wastewater distribution systems must be verified by the local utility.

6(d) Recommendation. VDH-ODW recommends that Best Management Practices (BMPs) should be employed on the project site including erosion and sediment controls and Spill Prevention Controls and Countermeasures (SPCCs).

For additional information, contact VDH-ODW, Arlene Fields Warren at (804) 864-7781 or arlene.warren@vdh.virginia.gov.

7. Local Review.

7(a) Agency Jurisdiction. In accordance with CFR 930, Subpart A, § 930.6(b) of the Federal Consistency Regulations, DEQ, on behalf of the state, is responsible for securing necessary review and comment from other state agencies, the public, regional government agencies, and local government agencies, in determining the Commonwealth's concurrence or objection to a federal consistency certification.

7(b) Agency Findings. The Caroline County Department of Planning and Community Development (DPCD) has no objection to the Proposed Action at Fort A.P. Hill.

For additional information, contact the Caroline County DPCD, Michael Finchum at (804) 633-4303 or mfinchum@co.caroline.va.us.

8. Pollution Prevention. DEQ advocates that principles of pollution prevention and sustainability be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices will help to ensure that environmental impacts are minimized. However, pollution prevention and sustainability techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

8(a) Recommendations. We have several pollution prevention recommendations that may be helpful in constructing or operating this facility:

- Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the proposed facility is committed to complying with environmental regulations, reducing risk, minimizing environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program (VEEP). VEEP provides recognition, annual permit fee discounts, and the possibility for

alternative compliance methods.

- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts.
- Consider energy efficiency when choosing materials and products, like insulation, fixtures, and HVAC systems.
- Consider contractors' commitment to the environment when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable materials and practices for building construction and design.
- Integrate pollution prevention techniques into the facility maintenance and operation, to include inventory control for centralized storage of hazardous materials. Maintenance facilities should have sufficient and suitable space to allow for effective inventory control and preventive maintenance.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. If interested, please contact Meghann Quinn at (804) 698-4021 or meghann.quinn@deq.virginia.gov.

9. Energy Conservation. Facility structures should be planned and designed to comply with state and federal guidelines and industry standards for energy conservation and efficiency. For example, the energy efficiency of the structures can be enhanced by maximizing the use of the following:

- thermally-efficient building shell components (roof, wall, floor, windows and insulation);
- high-efficiency heating, ventilation, air conditioning systems; and
- high-efficiency lighting systems and daylighting techniques.

The Department of Mines, Minerals and Energy should be contacted, David Spears at (434) 951-6350 or david.spears@dmme.virginia.gov, for assistance in meeting this challenge.

10. Water Conservation. The following recommendations will result in reduced water use associated with the operation of the facility.

- Grounds should be landscaped with hardy native plant species to conserve water as well as lessen the need to use fertilizers and pesticides.
- Convert turf to low water-use landscaping such as drought resistant grass, plants, shrubs and trees.
- Low-flow toilets should be installed.
- Consider installing low flow restrictors and aerators to faucets.
- Improve irrigation practices by:
    - upgrading sprinkler clock; water at night, if possible, to reduce evapotranspiration (lawns need only 1 inch of water per week, and do not need to be watered daily; overwatering causes 85% of turf problems);

  - installing a rain shutoff device; and
  - collecting rainwater with a rain bucket or cistern system with drip lines.
- Check for and repair leaks (toilets and faucets) during regular routine maintenance activities.

REGULATORY AND COORDINATION NEEDS

1. Nonpoint Source Pollution Control.

1(a) Erosion and Sediment Control and Stormwater Management. Construction activities must comply with Virginia's *Erosion and Sediment Control Law* (Virginia Code § 62.1-44.15:61) and *Regulations* (9 VAC 25-840-30 *et seq*.) and *Stormwater Management Law* (Virginia Code § 62.1-44.15:31) and *Regulations* (9 VAC 25-870-210 *et seq*.) as administered by DEQ in Virginia. Activities that disturb 2,500 square feet or more in CBPAs would be regulated by *VESCL&R* and *VSWML&R*. Erosion and sediment control and stormwater management requirements should be coordinated with the DEQ Northern Regional Office, Kelly Vanover at (804) 837-1073 or kelly.vanover@deq.virginia.gov.

1(b) General Permit for Stormwater Discharges from Construction Activities (VAR10). For land-disturbing activities of equal to or greater than one acre, the applicant is required to apply for registration coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880-1 *et seq.*). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ, Holly Sepety at (804) 698-4039 or holly.sepety@deq.virginia.gov.

2. Air Pollution Control. Guidance on minimizing the emission of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) during construction may be obtained from DEQ-NRO. Activities associated with this project may be subject to air regulations administered by DEQ. The state air pollution regulations that may apply to the construction phase of the project are:

- fugitive dust and emissions control (9 VAC 5-50-60 *et seq*.);
- open burning restrictions (9 VAC 5-130);
- fuel-burning equipment (9 VAC 5-80 *et seq*.).

The applicant should contact the appropriate local fire officials for information on any local requirements pertaining to open burning. For more information, contact DEQ-NRO, James LaFratta at (703) 583-3928 or james.lafratta@deq.virginia.gov.

3. Floodplain Management. The development activities must comply with Prince William County's local floodplain ordinance. For additional information and coordination, contact Caroline County, Mike Finchum at (804) 633-4303 or mfinchum@co.caroline.va.us.

4. Solid and Hazardous Wastes.

4(a) Solid and Hazardous Waste Management Regulations. All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. For additional information concerning location and availability of suitable waste management facilities in the project area or if free product, discolored soils, or other evidence of contaminated soils are encountered, contact DEQ-NRO, Richard Doucette at (703) 583-3813 or richard.doucette@deq.virginia.gov.

5. Natural Heritage Resources.

(i) Ecological Cores

A discussion of fragmentation impacts on ecological cores, including a fragmentation analysis to estimate direct impacts to cores and habitat fragments and indirect impacts to cores, may be initiated with the DCR Natural Heritage Information Manager, Joe Weber at joseph.weber@dcr.virginia.gov.

(ii) Updated Natural Heritage Resource Information

Contact DCR-DNH, Rene Hypes at (804) 371-2708 or rene.hypes@dcr.virginia.gov, to secure updated information on natural heritage resources if the scope of the project changes and/or six months has passed before it is utilized, since new and updated information is continually added to the Biotics Data System.

6. Wildlife Resources and Protected Species.

6(a) Bald Eagles. To ensure compliance with the Bald and Golden Eagle Act, coordinate, as necessary, with the U.S. Fish and Wildlife Service Virginia Field Office, Troy Andersen at (804) 654-9235 or troy.andersen@fws.gov, regarding possible impacts upon bald eagles or the need for a federal bald eagle take permit.

6(b) Wildlife Protection. Contact DGIF, Amy Ewing at (804) 367-2211 or amy.ewing@dgif.virginia.gov, on recommendations for the general protection of wildlife resources associated with construction.

Thank you for the opportunity to review and respond to the Amended Federal Consistency Determination for the Equipment Concentration Site in Caroline County. Detailed comments of reviewing agencies are attached for your review. Please contact me at (804) 698-4204 or John Fisher at (804) 698-4339 for clarification of these comments.

Sincerely,

Bettina Rayfield, Program Manager
Environmental Impact Review and Long-Range Priorities

Enclosures

Ec: Amy Ewing, DGIF
Robbie Rhur, DCR
Randy Owen, VMRC
Roger Kirchen, DHR
Arlene Fields Warren, VDH
Charles Culley, Caroline County
Linda Millsaps, GWRC

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: John Fisher

We thank **OEIR** for providing DEQ-AIR an opportunity to review the following project:

Document Type: Environmental Assessment
Project Sponsor: Department of Defense/Department of the Army
Project Title: Equipment Concentration Site Amendment
Location: Caroline County
Project Number: DEQ #20-043F

Accordingly, I am providing following comments for consideration.

PROJECT LOCATION: **X OZONE ATTAINMENT AREA**

REGULATORY REQUIREMENTSMAY BE APPLICABLE TO: **X CONSTRUCTION**
☐ OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2. ☐ 9 VAC 5-45-760 et seq. – Asphalt Paving operations
3. **X** **9 VAC 5-130 et seq. – Open Burning**
4. **X** **9 VAC 5-50-60 et seq. Fugitive Dust Emissions**
5. ☐ 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to_____
6. ☐ 9 VAC 5-60-300 et seq. – Standards of Performance for Toxic Pollutants
7. ☐ 9 VAC 5-50-400 Subpart____, Standards of Performance for New Stationary Sources, designates standards of performance for the_____
8. ☐ 9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
9. ☐ 9 VAC 5-80-1605 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
10. ☐ 9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
11. ☐ 9 VAC 5-80-800 et seq. Of the regulations – State Operating Permits. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:

(Kotur S. Narasimhan)
Office of Air Data Analysis **DATE: April 9, 2020**

MEMORANDUM

TO: John Fisher, DEQ/EIR Environmental Program Planner

FROM: Carlos A. Martinez, Division of Land Protection & Revitalization Review Coordinator

DATE: April 20, 2020

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: Environmental Impact Review: 20-043F Equipment Concentration Site Amendment in Bowling Green, Virginia.

The Division of Land Protection & Revitalization (DLPR) has completed its review of the Department of Defense/ Department of the Army's April 3, 2020 EIR Equipment Concentration Site Amendment in Bowling Green, Virginia.

DLPR staff conducted a search (500 ft. radius) of the project area of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project area. DLPR search did not identify any waste sites within the project area which might impact the project.

DLPR staff has reviewed the submittal and offers the following comments:

***Hazardous Waste/RCRA Facilities* – none in close proximity to the project area**

***CERCLA Sites* – none in close proximity to the project area**

***Formerly Used Defense Sites (FUDS)* – none in close proximity to the project area.**

***Solid Waste* – none in close proximity to the project area**

***Virginia Remediation Program (VRP)* – none in close proximity to the project area**

***Petroleum Releases* – none in close proximity to the project area**

PROJECT SPECIFIC COMMENTS

None

GENERAL COMMENTS

Soil, Sediment, Groundwater, and Waste Management

Any soil, sediment or groundwater that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Carlos A. Martinez by phone at (804) 698-4575 or email carlos.martinez@deq.virginia.gov.

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

Re: NEW PROJECT ARMY Equipment Concentration Site Amendment, DEQ #20-043F

1 message

Holland, Benjamin <benjamin.holland@deq.virginia.gov> Mon, Apr 6, 2020 at 9:19 AM
To: John Fisher <John.Fisher@deq.virginia.gov>

John - no further specific comments on the project amendment.

Northern Regional Office comments regarding the Environmental Assessment for *Equipment Concentration Site Amendment, DEQ #20-043F*, are as follows:

Land Protection Division – The project manager is reminded that if any solid or hazardous waste is generated/encountered during construction, the project manager would follow applicable federal, state, and local regulations for their disposal.

Air Compliance/Permitting - The project manager is reminded that during the construction phases that occur with this project; the project is subject to the Fugitive Dust/Fugitive Emissions Rule 9 VAC 5-50-60 through 9 VAC 5-50-120. In addition, should any open burning or use of special incineration devices be employed in the disposal of land clearing debris during demolition and construction, the operation would be subject to the Open Burning Regulation 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100.

Virginia Water Protection Permit (VWPP) Program – The project manager is reminded that a VWP permit from DEQ may be required should impacts to surface waters be necessary. DEQ VWP staff recommends that the avoidance and minimization of surface water impacts to the maximum extent practicable as well as coordination with the US Army Corps of Engineers. Upon receipt of a Joint Permit Application for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and current VWP permit program guidance. VWPP staff reserve the right to provide comment upon receipt of a permit application requesting authorization to impact state surface waters, and at such time that a wetland delineation has been conducted and associated jurisdiction determination made by the U.S. Army Corps of Engineers.

Erosion and Sediment Control and Storm Water Management – DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Consideration should also be given to using permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. For any land disturbing activities equal to one acre or more, you are required to apply for coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. The Virginia Stormwater Management Permit Authority may be DEQ or the locality.

On Fri, Apr 3, 2020 at 11:50 AM Fulcher, Valerie <valerie.fulcher@deq.virginia.gov> wrote:

> **Good morning - this is a new OEIR review request/project:**
>
> **Document Type: Environmental Assessment**

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

Re: NEW PROJECT ARMY Equipment Concentration Site Amendment, DEQ #20-043F

1 message

Gavan, Lawrence <larry.gavan@deq.virginia.gov> Mon, Apr 6, 2020 at 10:48 AM
To: "Fisher, John" <john.fisher@deq.virginia.gov>

(a) Agency Jurisdiction. The Department of Environmental Quality (DEQ) administers the *Virginia Erosion and Sediment Control Law and Regulations* (*VESCL&R*) and *Virginia Stormwater Management Law and Regulations* (*VSWML&R*).

(b) Erosion and Sediment Control and Stormwater Management Plans. The Applicant and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with *VESCL&R* and *VSWML&R*, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 10,000 square feet (2,500 square feet in Chesapeake Bay Preservation Area) would be regulated by *VESCL&R*. Accordingly, the Applicant must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. Land-disturbing activities that result in the total land disturbance of equal to or greater than 1 acre (2,500 square feet in Chesapeake Bay Preservation Area) would be regulated by *VSWML&R*. Accordingly, the Applicant must prepare and implement a Stormwater Management (SWM) plan to ensure compliance with state law and regulations. The ESC/SWM plan is submitted to the DEQ Regional Office that serves the area where the project is located for review for compliance. The Applicant is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: VESCL 62.1-44.15 et seq.]

(c) General Permit for Stormwater Discharges from Construction Activities (VAR10). DEQ is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land disturbing activities under the Virginia Stormwater Management Program.

The owner or operator of projects involving land-disturbing activities of equal to or greater than 1 acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific Stormwater Pollution Prevention Plan. Construction activities requiring registration also include land disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan of development will collectively disturb equal to or greater than one acre The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the *VSMP Permit Regulations*. General information and registration forms for the General Permit are available at: http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 1111 East Main Street, Suite 1400, Richmond, VA 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

MEMORANDUM

TO: John Fisher, DEQ Office of Environmental Impact Review

FROM: Daniel Moore, DEQ Principal Environmental Planner

DATE: April 23, 2020

SUBJECT: DEQ #20-043F: US Department of Army: Fort AP Hill – Equipment Concentration Site Amendment, Caroline County

We have reviewed the Environmental Assessment (EA) for the above project and offer the following comments regarding consistency with the provisions of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (Regulations).

In Caroline County, the areas protected by the Chesapeake Bay Preservation Act (CBPA), as locally implemented, require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local governments. RPAs include tidal wetlands, certain non-tidal wetlands, and tidal shores. RPAs also include a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow. RMAs in Caroline County, which require less stringent performance criteria than RPAs, include floodplains, highly erodible soils (including steep slopes), highly permeable soils, and non-tidal wetlands not included in the RPA.

Based on review of the submitted EA, the 41-acre project site does not include RPA or RMA lands. Therefore, the project is not subject to the Chesapeake Bay Preservation Act or Regulations.

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

ESSLog#40524_20-043F_ECSFtAPHill_DGIF_AME20200420

1 message

Ewing, Amy <amy.ewing@dgif.virginia.gov> Mon, Apr 20, 2020 at 3:29 PM
To: John Fisher <john.fisher@deq.virginia.gov>

John,
We have reviewed the subject project that proposes to construct a new facility at Ft. AP Hill in Caroline County. We document state Endangered Little Brown Bats and state Endangered Tri-colored Bats from the project area. To best protect roosting bats from harm associated with tree clearing, we recommend that such activities adhere to a time of year restriction from April 1 through October 31 of any year.

To minimize overall impacts to wildlife and our natural resources, we offer the following comments about development activities: We recommend that the applicant avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable. We recommend maintaining undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. We recommend maintaining wooded lots to the fullest extent possible. We generally do not support proposals to mitigate wetland impacts through the construction of stormwater management ponds, nor do we support the creation of in-stream stormwater management ponds.

We recommend that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

We recommend that all tree removal and ground clearing adhere to a time of year restriction (TOYR) protective of resident and migratory songbird nesting from March 15 through August 15 of any year.

We recommend adherence to erosion and sediment controls during ground disturbance. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap.

This project site is located within close proximity of historic and/or active bald eagle nests. To ensure protection of bald eagles in compliance with the Bald and Golden Eagle Act, we recommend using the Center for Conservation Biology (CCB) Eagle Nest Locator to determine if any active eagle nests are known from the project area. If active bald eagle nests have been documented from the project area, we recommend that the project move forward in a manner consistent with state and federal guidelines for protection of bald eagles; and coordination, as indicated, with the U.S. Fish and Wildlife Service regarding possible impacts upon bald eagles or the need for a federal bald eagle take permit.

We recommend adherence to the currently approved Integrated Natural Resources Management Plan for Ft. AP Hill.

Assuming adherence to erosion and sediment controls, we find this project consistent with the Fisheries Management Section of the CZMA.

Thanks, Amy

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

Re: NEW PROJECT ARMY Equipment Concentration Site Amendment, DEQ #20-043F

1 message

Warren, Arlene <arlene.warren@vdh.virginia.gov> Mon, Apr 6, 2020 at 8:22 AM
To: John Fisher <john.fisher@deq.virginia.gov>
Cc: rr Environmental Impact Review <eir@deq.virginia.gov>

Project Name: ARMY Equipment Concentra on Site Amendment
Project #: 20-043 F
UPC #: N/A
Loca on: Caroline Co.
VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Poten al impacts on public water distribu on systems or sanitary sewage collec on systems **must be verified by the local u lity.**

The following public groundwater wells are located within a 1-mile radius of the project site:

PWS ID Number	City/County	System Name	Facility Name
6033256	CAROLINE	FT A P HILL - CENTRAL CAMPSITE	WELL - LONGSTREET #1 (PWAT 34)
6033256	CAROLINE	FT A P HILL - CENTRAL CAMPSITE	WELL - ARENA #1 (PWAT 36)
6033256	CAROLINE	FT A P HILL - CENTRAL CAMPSITE	WELL - ARENA #2 (PWAT 37A)
*6033256	*CAROLINE*	*FT A P HILL - CENTRAL CAMPSITE*	*WELL - DAVIS #2 (PWAT 39)*

There are no surface water intakes located within a 5-mile radius of the project site.

The project is not within the watershed of any public surface water intakes.

> ****Well is right near the project line drawn, this is why it is included. Otherwise, our comments have not changed.*

Best Management Prac ces should be employed, including Erosion & Sedimenta on Controls and Spill Preven on Controls & Countermeasures on the project site.

Virginia Department of Health – Office of Drinking Water appreciates the opportunity to provide comments. If you have any ques ons, please let me know.

Best Regards,

Arlene Fields Warren

GIS Program Support Technician

Office of Drinking Water

Virginia Department of Health

Commonwealth of Virginia

Fisher, John <john.fisher@deq.virginia.gov>

NEW PROJECT ARMY Equipment Concentration Site Amendment, DEQ #20-043F

1 message

mfinchum@co.caroline.va.us <mfinchum@co.caroline.va.us> Fri, Apr 3, 2020 at 1:07 PM
To: John.Fisher@deq.virginia.gov
Cc: cculley@co.caroline.va.us, apartin@co.caroline.va.us

Good a ernoon Mr. Fisher,

Please be advised that this department has no objecon t o the above referenced amendment at Fort AP Hill.

Michael A. Finchum

Director of Planning & Community Development

P.O. Box 424

233 West Broaddus Avenue

Bowling Green, Virginia 22427

Tel: 804.633.4303

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

Russell W. Baxter
Deputy Director of Dam Safety & Floodplain Management and Soil & Water Conservation

Thomas L. Smith
Deputy Director of Operations

MEMORANDUM

DATE: April 20, 2020

TO: John Fisher, DEQ

FROM: Roberta Rhur, Environmental Impact Review Coordinator

SUBJECT: DEQ 20-043F, Fort A.P. Hill-U.S Army Reserve Military Construction Project

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Mill Creek Slopes Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Mill Creek Slopes Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

Coastal Plain/Piedmont Acidic Seepage Swamp Acer rubrum – Nyssa sylvatica – Magnolia virginiana – Viburnum nudum – Osmunda cinnamomea – Woodwardia areolata Forest	G3?/S3/NL/NL

The Coastal Plain / Outer Piedmont Acidic Seepage Swamp is an acidic groundwater saturated swamp forest that ranges from southeastern New York and New Jersey to southeastern Virginia, primarily on the Coastal Plain. In Virginia, it occurs mostly in the inner (western) portion of the Coastal Plain and the extreme eastern portion of the Piedmont. This community occurs in nutrient-poor soils in stream headwaters, where abundant groundwater is discharged in springs and seeps. The soil typically consists of muck or shallow peat over sandy mineral soil, with Sphagnum-covered hummocks and pools of standing water also present. The vegetation is a closed-canopy forest with red maple (*Acer rubrum*) and black gum (*Nyssa sylvatica*) typically dominant. Characteristic understory trees and shrubs include sweetbay magnolia (*Magnolia virginiana*), possum-haw (*Viburnum nudum*), and sweet pepperbush (*Clethra alnifolia*). The herbaceous flora is usually rich in sedges and ferns, especially cinnamon fern (*Osmunda cinnamomea*)

and netted chain fern (*Woodwardia areolata*). Skunk-cabbage (*Symplocarpus foetidus*) forms large colonies early the growing season in many stands. This uncommon wetland habitat is vulnerable to alteration or destruction by beavers and various anthropogenic activities including hydrologic modifications (NatureServe, 2010).

To minimize adverse impacts to the Coastal Plain/Piedmont Acidic Seepage Swamp as a result of the proposed activities, DCR recommends avoiding development within 100 meters of the natural heritage resource (Figure 1). DCR also recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations.

In addition, the proposed project will fragment an Ecological Core C2 as identified in the Virginia Natural Landscape Assessment (https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection.

Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Cores also provide benefits in terms of open space, recreation, water quality (including drinking water protection and erosion prevention), and air quality (including carbon sequestration and oxygen production), along with the many associated economic benefits of these functions. The cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using many prioritization criteria, such as the proportions of sensitive habitats of natural heritage resources they contain.

Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species.

Therefore minimizing fragmentation is a key mitigation measure that will reduce deleterious effects and preserve the natural patterns and connectivity of habitats that are key components of biodiversity. DCR recommends efforts to minimize edge in remaining fragments, retain natural corridors that allow movement between fragments and designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns). Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: http://vanhde.org/content/map.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov.

Division of Dam Safety & Floodplain Management

Floodplain Management Program:

The National Flood Insurance Program (NFIP) is administered by the Federal Emergency Management Agency (FEMA), and communities who elect to participate in this voluntary program manage and enforce the program on the local level through that community's local floodplain ordinance. Each local floodplain ordinance must comply with the minimum standards of the NFIP, outlined in 44 CFR 60.3; however, local communities may adopt more restrictive requirements in their local floodplain ordinance, such as regulating the 0.2% annual chance flood zone (Shaded X Zone).

All development within a Special Flood Hazard Area (SFHA), as shown on the locality's Flood Insurance Rate Map (FIRM), must be permitted and comply with the requirements of the local floodplain ordinance.

State Agency Projects Only

Executive Order 45, signed by Governor Northam and effective on November 15, 2019, establishes mandatory standards for development of state-owned properties in Flood-Prone Areas, which include Special Flood Hazard Areas, Shaded X Zones, and the Sea Level Rise Inundation Area. These standards shall apply to all state agencies.

1. Development in Special Flood Hazard Areas and Shaded X Zones
    A. All development, including buildings, on state-owned property shall comply with the locally-adopted floodplain management ordinance of the community in which the state-owned property is located and any flood-related standards identified in the Virginia Uniform Statewide Building Code.
    B. If any state-owned property is located in a community that does not participate in the NFIP, all development, including buildings, on such state-owned property shall comply with the NFIP requirements as defined in 44 CFR §§ 60.3, 60.4, and 60.5 and any flood-related standards identified in the Virginia Uniform Statewide Building Code.
        (1) These projects shall be submitted to the Department of General Services (DGS), for review and approval.
        (2) DGS shall not approve any project until the State NFIP Coordinator has reviewed and approved the application for NFIP compliance.
        (3) DGS shall provide a written determination on project requests to the applicant and the State NFIP Coordinator. The State NFIP Coordinator shall maintain all documentation associated with the project in perpetuity.
    C. No new state-owned buildings, or buildings constructed on state-owned property, shall be constructed, reconstructed, purchased, or acquired by the Commonwealth within a Special Flood Hazard Area or Shaded X Zone in any community unless a variance is granted by the Director of DGS, as outlined in this Order.

The following definitions are from Executive Order 45:

Development for NFIP purposes is defined in 44 CFR § 59.1 as "Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials."

The Special Flood Hazard Area may also be referred to as the 1% annual chance floodplain or the 100-year floodplain, as identified on the effective Flood Insurance Rate Map and Flood Insurance Study. This includes the following flood zones: A, AO, AH, AE, A99, AR, AR/AE, AR/AO, AR/AH, AR/A, VO, VE, or V.

The Shaded X Zone may also be referred to as the 0.2% annual chance floodplain or the 500- year floodplain, as identified on the effective Flood Insurance Rate Map and Flood Insurance Study.

The Sea Level Rise Inundation Area referenced in this Order shall be mapped based on the National Oceanic and Atmospheric Administration Intermediate-High scenario curve for 2100, last updated in 2017, and is intended to denote the maximum inland boundary of anticipated sea level rise.

"State agency" shall mean all entities in the executive branch, including agencies, offices, authorities, commissions, departments, and all institutions of higher education.

"Reconstructed" means a building that has been substantially damaged or substantially improved, as defined by the NFIP and the Virginia Uniform Statewide Building Code.

Federal Agency Projects Only

Projects conducted by federal agencies within the SFHA must comply with federal Executive Order 11988: Floodplain Management.

DCR's Floodplain Management Program does not have regulatory authority for projects in the SFHA. The applicant/developer must reach out to the local floodplain administrator for an official floodplain determination and comply with the community's local floodplain ordinance, including receiving a local permit. Failure to comply with the local floodplain ordinance could result in enforcement action from the locality. For state projects, DCR recommends that compliance documentation be provided prior to the project being funded. For federal projects, the applicant/developer is encouraged reach out to the local floodplain administrator and comply with the community's local floodplain ordinance.

To find flood zone information, use the Virginia Flood Risk Information System (VFRIS): www.dcr.virginia.gov/vfris

To find community NFIP participation and local floodplain administrator contact information, use DCR's Local Floodplain Management Directory: www.dcr.virginia.gov/dam-safety-and-floodplains/floodplain-directory

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

Figure 1. Buffered Significant Natural Community and Project Site

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Appendix D
Air Quality Emission Estimates and Record of Non-Applicability

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Appendix D - Air Emissions Summary Tables
Fort A.P. Hill
Air Quality Emission Estimates

Operational Sources Summary

Operational Sources	Actual Criteria Pollutant Emissions (tpy)[1]							GHG Emissions (metric tons)			
	SO_2	NOx	CO	PM_{10}	$PM_{2.5}$	VOC	HAPs	CO_2	CH_4	N_2O	CO_2e[2]
Stationary Sources											
Heating Units	0.005	0.85	0.66	0.065	0.065	0.047	0.016	952	0.018	0.002	953
Mobile Sources											
On-road Vehicles[6]	0.006	0.60	4.24	0.07	0.033	0.12	0.009	290	0.005	0.000	290
Total	**0.01**	**1.44**	**4.91**	**0.13**	**0.10**	**0.17**	**0.025**	**1,242**	**0.023**	**0.002**	**1,243**
PSD Thresholds[3,4]	250	250	250	250	250	250	25	N/A	N/A	N/A	N/A
Non-attainment NSR Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
General Conformity *de minimis* Thresholds[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] Lead is not a significant pollutant generated from this type of action. Any lead emissions generated from the proposed action have been included as part of the HAP emissions.

[2] Based on global warming potentials of 1 for CO2, 25 for CH4 and 298 for N2O effective as of 1/1/2014.

[3] PSD thresholds apply only to stationary sources.

[4] Threshold is 25 tpy for total HAPs or 10 tpy for any individual HAP.

[5] Caroline County is an attainment area for all pollutants under NAAQS. Non-attainment NSR and General Conformity de minimis thresholds do not apply to attainment pollutants.

[6] On-road vehicle emissions represent a decrease from current site operations vehicle emissions due to employees no longer having to drive to Fort Pickett to retrieve equipment. This decrease is detailed further in the table below.

Mobile Sources Decrease Details

Operational Sources	Actual Criteria Pollutant Emissions (tpy)[1]							GHG Emissions (metric tons)			
	SO_2	NOx	CO	PM_{10}	$PM_{2.5}$	VOC	HAPs	CO_2	CH_4	N_2O	CO_2e[2]
Mobile Sources											
On-road Vehicles - Existing Condition	0.009	1.47	5.88	0.14	0.08	0.22	0.021	505	0.010	0.000	506
On-road Vehicles - Preferred Alternative	0.006	0.60	4.24	0.07	0.033	0.12	0.009	290	0.005	0.000	290
Decrease	**0.00**	**-0.88**	**-1.63**	**-0.07**	**-0.05**	**-0.10**	**-0.01**	**-215**	**-0.004**	**0.000**	**-216**

Construction Sources Summary

Construction Sources	Actual Criteria Pollutant Emissions (tons)							GHG Emissions (metric tons)			
	SO_2	NOx	CO	PM_{10}	$PM_{2.5}$	VOC	HAPs	CO_2	CH_4	N_2O	CO_2e[2]
Construction Worker Commute	0.009	0.63	6.41	0.08	0.04	0.17	0.012	401	0.008	0.000	401
Paving (Asphalt)	--	--	--	--	--	0.018	--	--	--	--	--
Equipment	0.015	12.58	5.43	0.85	0.83	0.99	0.40	1,504	0.16	0.024	1,515
Material Hauling	0.001	0.85	0.38	0.065	0.047	0.047	0.000	115.60	0.000	0.000	115.60
Site Grading Fugitive Dust Emissions	--	--	--	0.16	0.02	--	--	--	--	--	--
Demolition Emissions	--	--	--	0.000	0.000	--	--	--	--	--	--
Dust from Travel on Unpaved Roads	--	--	--	0.000	0.000	--	--	--	--	--	--
Project Construction Totals (tons)	**0.025**	**14.06**	**12.22**	**1.16**	**0.93**	**1.22**	**0.41**	**2,020**	**0.16**	**0.024**	**2,032**
Construction Totals (tpy)[1]	**0.013**	**7.03**	**6.11**	**0.58**	**0.46**	**0.61**	**0.21**	**1,010**	**0.082**	**0.012**	**1,016**
General Conformity *de minimis* Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] Construction emissions calculated over 24 months. Total emissions have been divided by 2 to estimate the annual emissions.

[2] Based on global warming potentials of 1 for CO2, 25 for CH4 and 298 for N2O effective as of 1/1/2014.

Appendix D - Table 1
Fort A.P. Hill
Air Quality Emission Estimates-Heating Unit

NG Fired Units (MMBtu/hr)[1]	**1.75**
NG Fired Units (MMBtu/hr)[2]	**0.30**
Fuel Type	**Natural Gas**
Maximum Operation Limit (hrs/yr)	**8,760**
Heat Value of Fuel (Btu/scf)[3]	**1,050**

[1] Heat input assumes 1-1 MMBtu/hr boiler (TEMF Bldg.) and 1-750,000 Btu/hr boiler (Warehouse Bldg).

[2] Heat input assumes 1-300,000 Btu/hr water heater (TEMF Bldg).

[3] Natural Gas heating value (EPA AP-42, Appendix A, Miscellaneous Data & Conversion Factors)

	Uncontrolled Potential to Emit								
	Heating Units				Heat/Vents Units and Water Heaters				Total Criteria Pollutant Emissions
Criteria Pollutant[1]	**Emission Factor ($lb/10^6$ scf)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**	**Emission Factor ($lb/10^6$ scf)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**	**(ton/yr)**
Total Particulate Matter (PM)[2]	7.60	0.013	111	0.055	7.60	0.002	19.02	0.010	0.065
Nitrogen Oxides (NOx)	100	0.17	1,460	0.73	94.00	0.027	235	0.12	0.85
Sulfur Oxides (SOx)	0.60	0.001	8.76	0.004	0.60	0.0002	1.50	0.001	0.005
Carbon Monoxide (CO)	84.00	0.14	1,226	0.61	40.00	0.011	100	0.05	0.66
VOC	5.50	0.009	80.30	0.040	5.50	0.002	13.77	0.007	0.047

[1] Criteria Pollutants, small uncontrolled boilers (EPA AP-42, Section 1.4 Natural Gas Combustion, Tables 1.4-1 and 1.4-2).

[2] PM emission factor is assumed to equal PM_{10} and $PM_{2.5}$

			Uncontrolled Potential to Emit		
Toxic Air Pollutants (Organic HAPs)[1,2]	**CAS No.**	**Emission Factor ($lb/10^6$ scf)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**
3-Methylchloranthrene	56-49-5	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Benzene	71-43-2	2.10E-03	4.10E-06	0.036	1.80E-05
Benzo(a)pyrene	50-32-8	1.20E-06	2.34E-09	2.05E-05	1.03E-08
Formaldehyde	50-00-0	7.50E-02	1.46E-04	1.28	0.001
Hexane	110-54-3	1.80E+00	0.004	30.79	0.015
Naphthalene	91-20-3	6.10E-04	1.19E-06	0.010	5.22E-06
Toluene	108-88-3	3.40E-03	6.64E-06	0.058	2.91E-05
2-Methylnaphthalene	91-57-6	2.40E-05	4.69E-08	4.10E-04	2.05E-07
7,12-Dimethylbenz(a)anthracene		1.60E-05	3.12E-08	2.74E-04	1.37E-07
Acenaphthene	83-32-9	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Acenaphthylene	203-96-8	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Anthracene	120-12-7	2.40E-06	4.69E-09	4.10E-05	2.05E-08
Benzo(a)anthracene	56-55-3	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Benzo(b)fluoranthene	205-82-3	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Benzo(g,h,i)perylene	191-24-2	1.20E-06	2.34E-09	2.05E-05	1.03E-08
Benzo(k)fluoranthene	205-82-3	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Chrysene	218-01-9	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	2.34E-09	2.05E-05	1.03E-08
Dichlorobenzene	25321-22-6	1.20E-03	2.34E-06	0.021	1.03E-05
Fluoranthene	206-44-0	3.00E-06	5.86E-09	5.13E-05	2.57E-08
Flourene	86-73-7	2.80E-06	5.47E-09	4.79E-05	2.39E-08
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	3.51E-09	3.08E-05	1.54E-08
Phenanathrene	85-01-8	1.70E-05	3.32E-08	2.91E-04	1.45E-07
Pyrene	129-00-0	5.00E-06	9.76E-09	8.55E-05	4.28E-08
Organic HAPs Total				**32.19**	**0.02**

[1] Toxic Air Pollutants (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3).

[2] Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

			Uncontrolled Potential to Emit		
Toxic Air Pollutants-Metals (Inorganic HAPs)[1,2]	**CAS Number**	**Emission Factor ($lb/10^6$ scf)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**
Arsenic	7440-38-2	2.00E-04	3.90E-07	0.003	1.71E-06
Barium	7440-39-3	4.40E-03	8.59E-06	0.075	3.76E-05
Beryllium	7440-41-7	1.20E-05	2.34E-08	2.05E-04	1.03E-07
Cadmium	7440-43-9	1.10E-03	2.15E-06	0.019	9.41E-06
Chromium	7440-47-3	1.40E-03	2.73E-06	0.024	1.20E-05
Cobalt	7440-48-4	8.40E-05	1.64E-07	0.001	7.18E-07
Copper	7440-50-8	8.50E-04	1.66E-06	0.015	7.27E-06
Lead		5.00E-04	9.76E-07	0.009	4.28E-06
Manganese	7439-96-5	3.80E-04	7.42E-07	0.006	3.25E-06
Mercury	7439-97-6	2.60E-04	5.08E-07	0.004	2.22E-06
Molybdenum	7439-98-7	1.10E-03	2.15E-06	0.019	9.41E-06
Nickel	7440-02-0	2.10E-03	4.10E-06	0.036	1.80E-05
Selenium	7782-49-2	2.40E-05	4.69E-08	4.10E-04	2.05E-07
Vanadium	1314-62-1	2.30E-03	4.49E-06	0.039	1.97E-05
Zinc	7440-66-6	2.90E-02	5.66E-05	0.50	2.48E-04
Inorganic HAPs Total				**0.75**	**3.74E-04**
HAPs Total				**32.94**	**0.016**

[1] Metals from Natural Gas Combustion (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4; Lead from Table 1.4-2).

[2] Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

Emission rate calculations for greenhouse gases - SCC Code 2103006000

GHG emission factors obtained from U.S. EPA Mandatory Reporting of GHGs, Final Rule; Tables C-1 and C-2

Constituent	**Emission Factor (lb/mmBtu)**	**Hourly Potential to Emit (lb/hr)**	**Annual Potential to Emit (lb/yr)**	**Annual Potential to Emit (metric tons per year)**	**CO2e (metric tons/yr)**
CO_2	116.9	239.6	2,099,092	952	952
CH_4	0.0022	0.0045	39.59	0.018	0.45
N_2O	0.00022	0.0005	3.96	0.002	0.54

[3] Based on global warming potentials of 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Appendix D - Table 2
Fort A.P. Hill
Air Quality Emission Estimates - Government and Personal Onroad Vehicles

Emissions from Worker Commuting

Emission factors for four vehicle categories were developed by running EPA's MOVES 2014a model using an average speed of 30 mph for all vehicle types and a default age distribution of vehicles. Vehicle type distributions within each category (see table below) were derived from the national average vehicle type distribution, obtained from Mobile6 and converted for use with MOVES (Source: http://www.epa.gov/otaq/models/moves/tools.htm). Mobile source emissions factors generally decrease with time; therefore, the 2016 emission factors can conservatively be used for analyses of projects occurring in years 2016 and later.

Vehicle Category	Vehicle Types included
Worker Commute	passenger cars and trucks (mix of diesel and gas from MOVES defaults)
Haul Truck	single-unit and combination long- and short-haul trucks (mix of diesel and gas from MOVES defaults)
Coach Bus	intercity buses (100% diesel)
GOV	light-duty trucks (100% diesel)

Calculation of Mileage for Government Owned Vehicles (GOVs)

Vehicle Type	# of vehicles	Total Mileage/ Year[1]	Mileage
GOVs Buses/Vans	10	1,200	12,000

[1] Assumes each government vehicle driving 50 mi/yr to site 2 weekends/mo 12 mo/year to take reservists to trainings

Calculation of Mileage for Privately Owned Vehicles (POVs)

	Estimated Vehicles Entering USARC /Year					Miles/Vehicle/ Day[3]	Total POVs per Year	Total Miles per Year
	Daily	Weekend	Annual[1]	% of Employees that drive to Property	Adjusted Vehicles per year[2]			
Daily Employee POVs	41	0	10,660	100%	10,660	50	41	533,000
Weekend Reservists POVs	0	48	1,152	100%	1,152	50	0	57,600
TOTAL (POVs)								**590,600**

[1] The annual number of vehicles entering the facility per year: 41 POV Employee Vehicles/Day x 5 (day/wk) x 52 (wks/yr) 48 Weekend Reservists POV vehicles/weekend x 2 weekends/mo x 12 mo/year

[2] Estimated maximum worst case scenario of 100% of employees commuting to the site in their personal vehicles

[3] 50 miles has been assumed to be the average distance traveled by employees in their personal vehicles commuting to and from work at Fort A.P. Hill, assuming most employees live within 25 miles of the property.

Calculation of Criteria Pollutant Emission Rates

				2016 Year Emission Factors														
				Fleet Vehicle Criteria Emission Factors (gm/mile)						Fleet Vehicle HAP Emission Factors (mg/mile)						GHG Emission Factors (gm/mile)		
Vehicle Category	Modeled Year	Number of Vehicles	Annual Mileage	CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Acrolein	Acetalde-hyde	1,3-Butadiene	Benzene	Formalde-hyde	MTBE	CO_2	CH_4	N_2O
Weekend Reservists GOV Buses/Vans	2016[1]	10	12,000	3.43	0.74	14.00	0.019	1.07	0.77	5.01	27.33	2.11	5.96	61.90	0.000	2182	0.032	0.000
Daily Employee POVs	2016[2]	41	533,000	6.46	0.17	0.63	0.009	0.09	0.04	0.13	1.99	0.90	6.21	2.53	0.000	447	0.009	0.000
Weekend Reservists POVs	2016[2]	48	57,600	6.46	0.17	0.63	0.009	0.09	0.04	0.13	1.99	0.90	6.21	2.53	0.000	447	0.009	0.000

[1] GOV Buses/Vans emission factors are based on coach bus emission factors (mix of diesel from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[2] Worker and reservists commute emission factors are based on passenger cars and trucks (mix of diesel and gas from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

				Actual Criteria Pollutant Emissions[1]						Actual HAP Emissions						GHG Emissions			
Vehicle Category	Modeled Year	Number of Vehicles	Annual Mileage	CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Acrolein	Acetaldehyde	1,3-Butadiene	Benzene	Formalde-hyde	MTBE	CO_2	CH_4	N_2O	CO_2e[2]
Weekend Reservists GOV Buses/Vans	2016	10	12,000	90	19.60	369.58	0.501	28.16	20.21	0.132	0.721	0.056	0.157	1.634	0.000	57,713	0.837	0.000	57,734
Daily Employee POVs	2016	41	533,000	7,580	195.83	743.72	10.31	100.17	41.57	0.15	2.33	1.05	7.28	2.97	0.000	524,934	10.04	0.000	525,185
Weekend Reservists POVs	2016	48	57,600	819	21	80.4	1.11	10.82	4.49	0.02	0.25	0.11	0.79	0.32	0.000	56,728	1.08	0.000	56,756
TOTAL EMISSIONS (lb/yr)				**8,489**	**237**	**1,194**	**11.9**	**139**	**66.27**	**0.30**	**3.30**	**1.22**	**8.23**	**4.92**	**0.000**	**639,376**	**11.96**	**0.000**	**639,675**
TOTAL EMISSIONS (tpy)				**4.2**	**0.12**	**0.60**	**0.006**	**0.07**	**0.03**	**1.51E-04**	**0.002**	**0.001**	**0.004**	**0.002**	**0.000**	--	--	--	--
TOTAL GHG EMISSIONS (metric tons/yr)				--	--	--	--	--	--	--	--	--	--	--	--	**290**	**0.005**	**0.000**	**290**

[1] Actual Emissions (lb/yr) = Emission Factor (gm/mile) x Annual Mileage x 0.0022 (lb/gm).

[2] Based on global warming potentials of 1 for CO2, 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Appendix D -Table 3
Fort A.P. Hill
Air Quality Emission Estimates - Government and Personal Onroad Vehicles Existing Conditions

Emissions from Worker Commuting

Emission factors for four vehicle categories were developed by running EPA's MOVES 2014a model using an average speed of 30 mph for all vehicle types and a default age distribution of vehicles. Vehicle type distributions within each category (see table below) were derived from the national average vehicle type distribution, obtained from Mobile6 and converted for use with MOVES (Source: http://www.epa.gov/otaq/models/moves/tools.htm). Mobile source emissions factors generally decrease with time; therefore, the 2016 emission factors can conservatively be used for analyses of projects occurring in years 2016 and later.

Vehicle Category	Vehicle Types included
Worker Commute	passenger cars and trucks (mix of diesel and gas from MOVES defaults)
Haul Truck	single-unit and combination long- and short-haul trucks (mix of diesel and gas from MOVES defaults)
Coach Bus	intercity buses (100% diesel)
GOV	light-duty trucks (100% diesel)
2.60%	Combination Short-haul Truck
2.66%	Combination Long-haul Truck

Calculation of Mileage for Government Owned Vehicles (GOVs)

Vehicle Type	# of vehicles	Mileage[1]	Total Annual Mileage
GOVs	24	200	115,200
GOVs Buses/Vans	10	200	48,000

[1] Fort Pickett is approx. 100 miles from Fort A.P. Hill. Assumes each government vehicle and bus/van driven 200 miles from Fort Pickett to Fort A.P. Hill for training and back 2 weekends/mo 12 mos/year.

Calculation of Mileage for Privately Owned Vehicles (POVs)

	Estimated Vehicles Entering USARC /Year					Miles/Vehicle/ Day[3]	Total POVs per Year	Total Miles per Year
	Daily	Weekend	Annual[1]	% of Employees that drive to Property	Adjusted Vehicles per year[2]			
Daily Employee POVs	41	0	10,660	100%	10,660	50	41	533,000
Weekend Reservists POVs	0	150	3,600	100%	3,600	50	0	180,000
TOTAL (POVs)								**713,000**

[1] The annual number of vehicles entering the facility per year: 41 POV Employee Vehicles/Day x 5 (day/wk) x 52 (wks/yr)

[2] Estimated maximum worst case scenario of 100% of employees commuting to the site in their personal vehicles

[3] Assumes 41 daily employees commuting to work at Fort Pickett. Assumes 150 reservists driving 50 miles roundtrip to/from Fort Pickett to pickup equipment. POVs are then parked at Fort Pickett and GOV equipment and buses/vans are driven from Fort Pickett to Fort A.P. Hill and back for training.

Calculation of Criteria Pollutant Emission Rates

				2016 Year Emission Factors														
				Fleet Vehicle Criteria Emission Factors (gm/mile)						Fleet Vehicle HAP Emission Factors (mg/mile)						GHG Emission Factors (gm/mile)		
Vehicle Category	Modeled Year	Number of Vehicles	Annual Mileage	CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Acrolein	Acetaldehyde	1,3-Butadiene	Benzene	Formaldehyde	MTBE	CO_2	CH_4	N_2O
Weekend Reservists GOVs	2016[1]	24	115,200	4.93	0.38	1.87	0.006	0.15	0.09	2.60	14.22	1.08	3.09	32.43	0.000	713	0.020	0.000
Weekend Reservists' GOV Buses/Vans	2016[2]	10	48,000	3.43	0.74	14.00	0.019	1.07	0.77	5.01	27.33	2.11	5.96	61.90	0.000	2182	0.032	0.000
Daily Employee POVs	2016[3]	41	533,000	6.46	0.17	0.63	0.009	0.09	0.04	0.13	1.99	0.90	6.21	2.53	0.000	447	0.009	0.000
Weekend Reservists POVs	2016[3]	150	180,000	6.46	0.17	0.63	0.009	0.09	0.04	0.13	1.99	0.90	6.21	2.53	0.000	447	0.009	0.000

[1] GOV emission factors are based on a mix of light duty truck factors (mix of diesel from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[2] GOV Buses/Vans emission factors are based on coach bus emission factors (mix of diesel from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[3] Worker commute emission factors are based on passenger cars and trucks (mix of diesel and gas from MOVES defaults) for year 2016 travelling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

				Actual Criteria Pollutant Emissions[1]						Actual HAP Emissions						GHG Emissions			
Vehicle Category	Modeled Year	Number of Vehicles	Annual Mileage	CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$	Acrolein	Acetaldehyde	1,3-Butadiene	Benzene	Formaldehyde	MTBE	CO_2	CH_4	N_2O	CO_2e[2]
Weekend Reservists GOVs	2016	24	115,200	1,249	97.06	472.90	1.557	38.81	23.93	0.658	3.603	0.274	0.783	8.219	0.000	181,202	5.084	0.000	181,329
Weekend Reservists' GOV Buses/Vans	2016	10	48,000	362	78.39	1,478.32	2.003	112.63	80.85	0.529	2.886	0.223	0.629	6.537	0.000	230,851	3.347	0.000	230,934
Daily Employee POVs	2016	41	533,000	7,580	195.83	743.72	10.31	100.17	41.57	0.15	2.33	1.05	7.28	2.97	0.000	524,934	10.04	0.00	525,185
Weekend Reservists POVs	2016	150	180,000	2,560	66	251.2	3.48	33.83	14.04	0.05	0.79	0.35	2.46	1.00	0.000	177,276	3.39	0.00	177,361
TOTAL EMISSIONS (lb/yr)				**11,751**	**437**	**2,946**	**17.4**	**285**	**160.39**	**1.39**	**9.60**	**1.90**	**11.16**	**18.73**	**0.000**	**1,114,263**	**21.86**	**0.00**	**1,114,810**
TOTAL EMISSIONS (tpy)				**5.9**	**0.22**	**1.47**	**0.009**	**0.14**	**0.08**	**6.96E-04**	**0.005**	**0.001**	**0.006**	**0.009**	**0.000**	--	--	--	
TOTAL GHG EMISSIONS (metric tons/yr)				--	--	--	--	--	--	--	--	--	--	--	--	**505**	**0.010**	**0.000**	**506**

[1] Actual Emissions (lb/yr) = Emission Factor (gm/mile) x Annual Mileage x 0.0022 (lb/gm).

[2] Based on global warming potentials of 1 for CO2, 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Appendix D - Table 4
Fort A.P. Hill
Air Quality Emission Estimates- Construction

Emissions from Construction Worker Commuting

					Pollutant Emission Factors[1] (g/VMT)						HAP Emission Factors (mg/mile)						GHG Emission Factors (g/mi)			
Estimated Daily Commute Distance	Number of workers	Daily Commute Miles[3]	Months of Construction	Total Miles per Project[2]	CO	NO_x	VOC	PM_{10}	$PM_{2.5}$	SO_2	Acrolein	Acetalde-hyde	1,3-Butadiene	Benzene	Formalde-hyde	MTBE	CO_2	CH_4	N_2O	
Construction Worker	30	50	24	900,000	6.46	0.63	0.17	0.09	0.04	0.009	0.13	1.99	0.90	6.2	2.53	0.000	447	0.009	0.000	
Total					Criteria Pollutant Emissions (tons)						HAP Emissions (Pounds)						GHG Emissions (metric tons)			
					CO	NOx	VOC	PM_{10}	$PM_{2.5}$	SO_2	Acrolein	Acetalde-hyde	1,3-Butadiene	Benzene	Formalde-hyde	MTBE	CO_2	CH_4	N_2O	CO_2e[4]
					6.41	0.63	0.17	0.08	0.04	0.009	0.26	3.94	1.78	12.3	5.02	0.00	401	0.01	0.000	**401**
				Total	**6.41**	**0.63**	**0.17**	**0.08**	**0.04**	**0.009**	**0.26**	**3.94**	**1.78**	**12.3**	**5.02**	**0.00**	**401**	**0.01**	**0.000**	**401**

Notes:

[1] Worker commute emission factors are based on passenger cars and trucks (mix of diesel and gas from MOVES defaults) for year 2016 traveling at an average speed of 30 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[2] Construction worker total miles calculated by: multiplying daily commute hours x months of construction x 25 (days per month); have assumed a 24-month construction period.

[3] Daily commute number includes both directions of commute

[4] Based on global warming potentials of 1 for CO2, 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Paving (Asphalt) Emissions

Acres to be paved	13.4	
Emissions Factor[1]	2.62	lbs ROG (VOC) /acre
Emissions from asphalt paving	**35.06**	**lbs VOC**
	0.018	**Tons VOC**

Note:

[1] Using equation in AP-42, Section 4.5, emissions factor from URBEMIS model.

Material Hauling

					Pollutant Emission Factors (g/VMT)[1]						HAP Emission Factors (mg/mile)						GHG Emission Factors (g/mi)		
Material Hauling	**Tons of Material**	**# of Trips[2]**	**Miles per Trip**	**Avg. Speed**	**CO**	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**Acrolein**	**Acetalde-hyde**	**1,3-Butadiene**	**Benzene**	**Formalde-hyde**	**MTBE**	**CO_2**	**CH_4**	**N_2O**
To Site	20	932	30	25	6.15	13.79	0.76	1.05	0.76	0.019	4.51	25.51	2.39	9.14	56.48	0.000	2,071	0.033	0.000
From Site	20	932	30	25	6.15	13.79	0.76	1.05	0.76	0.019	4.51	25.51	2.39	9.14	56.48	0.000	2,071	0.033	0.000

		Criteria Pollutant Emissions (Annual tons)						HAP Emissions (Pounds)						GHG Emissions (metric tons)			
		CO	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**Acrolein**	**Acetalde-hyde**	**1,3-Butadiene**	**Benzene**	**Formalde-hyde**	**MTBE**	**CO_2**	**CH_4**	**N_2O**	**CO_2e[3]**
	To Site	0.189	0.42	0.023	0.032	0.023	5.87E-04	0.28	1.57	0.147	0.56	3.48	0.000	57.78	9.20E-04	0.000	**57.80**
	From Site	0.189	0.42	0.023	0.032	0.023	5.87E-04	0.28	1.57	0.147	0.56	3.48	0.000	57.78	9.20E-04	0.000	**57.80**
	Total	**0.38**	**0.85**	**0.047**	**0.065**	**0.047**	**0.001**	**0.56**	**3.14**	**0.29**	**1.13**	**6.96**	**0.000**	**115.56**	**0.002**	**0.000**	**115.60**

[1] Haul truck emission factors are based on single-unit and combination long- and short-haul trucks (mix of diesel and gas from MOVES defaults) for year 2016 travelling at an average speed of 25 mph. Assumptions documented here:
Summer emission factors assume an afternoon temperature and humidity of 86°F and 68.1%RH, respectively, gas RVP of 8.8, and diesel sulfur of 15ppm.
Winter emission factors assume a morning temperature and humidity of 0.4°F and 84.8%RH, respectively, gas RVP of 13.73, and diesel sulfur of 15ppm.
The higher of the summer and winter emission factor for each pollutant was used.

[2] Assumes service trucks (2) and delivery (2) trucks make 2 deliveries per week for approximately 24 months of the project, dump trucks (2) make 5 deliveries per day for 10 days, and concrete (1) and asphalt (1) trucks make 5 deliveries per day for 10 days over the project duration.

[3] Based on global warming potentials of 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

Construction Activities - Fugitive Dust Emissions

	PM Tons/ Acre-month[1]	**Acres worked**	**Months**	**PM10 Emissions (tons)[3]**	**PM2.5 Emissions (Ton)[4]**
Average Conditions	0.11	1.46	1	0.16	0.02

[1] Emission factors from WRAP Fugitive Dust Handbook, September 2006, Table 3-2. Conservatively assumes no control measures will be used.
[2] Assumes 0.25 acres will be disturbed at a time for a total of approx. 35 acres disturbed over 24 months of construction.
[3] Emissions from Grading = Acres of Area Graded * Months of Grading * EF = Emissions from Grading
[4] The PM2.5/PM10 ratio for fugitive dust from construction and demolition activities is 0.1.(WRAP, section 3.4.1)

Demolition Emissions

	PM10 (tons/ac/mo)[1]	Acres worked[2]	Months of Construction	**PM10 Emissions (tons)**	**PM2.5 Emissions (Ton)[3]**
Demolition Emissions Average Cond	0.11	0.000125	1	0.0000	0.00000

Note:
[1] Emission factor from WRAP Fugitive Dust Handbook, September 2006, Table 3-2.
[2] Assumes 0.000125 acres disturbed at a time for a total of approx. 0.003 acres disturbed over 24 months of construction.
[3] The PM2.5/PM10 ratio for fugitive dust from construction and demolition activities is 0.1.(WRAP, section 3.4.1)

Construction Summary Table

	CO	**NOx**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**HAPs**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
	tons	tons	tons	tons	tons	tons	tons	metric tons	metric tons	metric tons	metric tons
Construction Worker Commute	6.41	0.63	0.17	0.08	0.04	0.009	0.012	401	0.008	0.000	401.4
Paving (Asphalt)	--	--	0.018	--	--	--	--	--	--	--	--
Clearing	--	--	--	0.00	0.00	--	--	--	--	--	--
Equipment[1]	5.43	12.58	0.99	0.85	0.83	0.02	0.40	1,504	0.16	0.024	1,515
Material Hauling	0.38	0.85	0.047	0.065	0.047	1.17E-03	6.04E-03	115.56	0.002	0.0000	115.60
Fugitive Dust Emissions	--	--	--	0.16	0.02	--	--	--	--	--	--
Demolition Emissions	--	--	--	0.00	0.00	--	--	--	--	--	--
Project Construction Totals (tons)	**12.22**	**14.06**	**1.22**	**1.16**	**0.93**	**0.025**	**0.42**	**--**	**--**	**--**	**--**
Project Construction Totals (metric tons)	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2,020**	**0.17**	**0.024**	**2,032**

[1] Equipment emissions obtained from Table 4. Emissions have been multiplied by 2 to account for the 24 month construction period.

Appendix D - Table 5
Fort A.P. Hill
Air Quality Emission Estimates- Diesel Off-road Construction Vehicles
Calculation of Criteria Pollutant Emission Rates

Emissions Estimate Based on Engine Rating and Operating Time (All Diesel-fired Equipment)

Equipment Data[1]										*Emission Parameters*			*Criteria Pollutant Emissions Factors*[3]						*GHG Emission Factors*[3]			*Annual Actual Emissions*[7]									
Vehicle/Equipment Type	Equipment Category	Engine Type	Number of Units	Engine Rating (Per Unit) (hp)	Model Year	Model Year Site (S)/ Default (D)	Operating Time (Per unit) (hr/yr)	Total Operating Time[2] (hr/yr)	Source for Operating Time Site (S)/ Default (D)	Heat Input (MMBtu/yr)	Load Factor[3] (Percent of Max. Power)	SCC[4]	VOC Emission Factor (g/hp-hr)	CO Emission Factor (g/hp-hr)	NOx Emission Factor (g/hp-hr)	PM-10 Emission Factor (g/hp-hr)	PM-2.5 Emission Factor (g/hp-hr)	SO_2 Emission Factor (g/hp-hr)	CO_2 Emission Factor (kg/MMBtu)	CH_4 Emission Factor (g/MMBtu)	N_2O Emission Factor (g/MMBtu)	VOC Emissions (lb/yr)	CO Emissions (lb/yr)	NOx Emissions (lb/yr)	PM-10 Emissions (lb/yr)	PM-2.5 Emissions (lb/yr)	SO_2 Emissions (lb/yr)	CO_2 Emissions (metric tons/yr)	CO_2 Emissions (metric tons/yr)	N_2O Emissions (metric tons/yr)	CO_2e[8] (metric tons/yr)
Backhoe	Construction	Reciprocating Diesel	1	100	2013	D	1040	1040	D	728	21%	2270002066	1.11	6.57	5.41	0.97	0.94	0.006	73.96	4.00	0.6	53.45	316.4	260.5	46.71	45.31	0.30	11.31	0.003	4.37E-04	11.51
Compactor	Construction	Diesel	1	11	2013	D	1040	1040	D	80.08	43%	2270002009	0.71	4.51	5.12	0.52	0.50	0.005	73.96	4.00	0.6	7.70	48.92	55.54	5.64	5.47	0.059	2.55	0.000	4.80E-05	2.57
Dump Trucks	Construction	Diesel	1	175	2013	D	1040	1040	D	1,274	21%	2270002078	0.87	3.42	5.85	0.66	0.64	0.006	73.96	4.00	0.6	73.32	288.2	493.0	55.62	53.95	0.47	19.79	0.005	7.64E-04	20.14
Cranes	Construction	Diesel	1	300	2013	D	1040	1040	D	2,184	43%	2270002045	0.22	0.63	3.02	0.13	0.13	0.005	73.96	4.00	0.6	65.08	186.4	893.4	38.46	37.30	1.33	69.46	0.009	1.31E-03	70.07
Bulldozers	Construction	Diesel	1	1,000	2013	D	1040	1040	D	7,280	59%	2270002069	0.29	1.25	4.59	0.20	0.19	0.005	73.96	4.00	0.6	392.4	1,691	6,210	270.6	262.5	6.22	317.7	0.029	4.37E-03	319.7
Paving Machine	Construction	Diesel	1	175	2013	D	1040	1040	D	1,274	59%	2270002021	0.27	1.33	3.51	0.28	0.27	0.005	73.96	4.00	0.6	63.93	314.9	831.1	66.30	64.31	1.11	55.59	0.005	7.64E-04	55.95
Concrete Truck	Construction	Reciprocating	1	300	2013	D	1040	1040	D	2,184	59%	2270002051	0.16	0.63	1.98	0.12	0.12	0.004	73.96	4.00	0.6	64.94	255.7	803.7	48.71	47.25	1.66	95.30	0.009	1.31E-03	95.91
Air Compressor	Construction	Diesel	2	75	2013	D	1040	2080	D	1,092	43%	2270006015	0.36	2.41	4.34	0.34	0.33	0.005	73.96	4.00	0.6	53.25	356.5	641.9	50.29	48.78	0.78	34.73	0.004	6.58E-04	35.03
Front End Loader	Construction	Diesel	1	100	2013	D	1040	1040	D	728	59%	2270002060	0.32	3.23	3.68	0.43	0.42	0.005	73.96	4.00	0.6	43.30	437.0	497.9	58.18	56.43	0.70	31.77	0.003	4.37E-04	31.97
Skid Steer Loader	Construction	Reciprocating	1	50	2013	D	1040	1040	D	364	21%	2270002072	0.97	4.45	5.25	0.72	0.70	0.006	73.96	4.00	0.6	23.36	107.1	126.4	17.34	16.82	0.15	5.65	0.001	2.18E-04	5.75
Paver/Roller	Construction	Reciprocating	1	100	2013	D	1040	1040	D	728	59%	2270002003	0.30	3.17	3.56	0.41	0.40	0.005	73.96	4.00	0.6	40.59	428.9	481.7	55.47	53.81	0.69	31.77	0.003	4.37E-04	31.97
Clearing Equipment (Roller)	Construction	Reciprocating	1	100	2013	D	1040	1040	D	728	59%	2270002015	0.32	3.23	3.68	0.43	0.42	0.005	73.96	4.00	0.6	43.30	437.0	497.9	58.18	56.43	0.70	31.77	0.003	4.37E-04	31.97
Excavators	Construction	Reciprocating	1	100	2013	D	1040	1040	D	728	59%	2270002030	0.38	3.43	4.03	0.48	0.47	0.005	73.96	4.00	0.6	51.41	464.1	545.3	64.94	63.00	0.70	31.77	0.003	4.37E-04	31.97
Concrete Saw (Ramp and Lot)	Construction	Reciprocating	1	40	2013	B	1040	1040	D	291.2	59%	2270002039	0.28	1.75	4.47	0.30	0.29	0.005	73.96	4.00	0.6	15.15	94.71	241.9	16.24	15.75	0.29	12.71	0.001	1.75E-04	12.79
TOTAL EMISSIONS (lb/yr)										--	--	--	--	--	--	--	--	--	--	--	--	**991**	**5,427**	**12,580**	**893**	**827**	**15.18**	--	--	--	--
TOTAL EMISSIONS (tpy)																						**0.50**	**2.71**	**6.29**	**0.43**	**0.41**	**0.008**	--	--	--	--
TOTAL EMISSIONS (metric tons/yr)																						--	--	--	--	--	--	**752**	**0.079**	**0.012**	**757**

[1] Though some welding may be done onsite, it will be minimal and the emissions have been ruled negligible

[2] Assumed each piece of equipment operates 4 hrs/day, 5 days per week, 52 weeks per year.

[3] Load factor is the fraction of available power at which the engine normally operates. Load factors obtained from the EPA Nonroad Model

[4] SCC obtained EPA Nonroad Model

[5] Emission factors are obtained from USEPA, NonRoad Model. Run July 6, 2013 for the year 2013 for the entire nation. Assumptions: Fuel RVP: 12.5, O wt.%: 0.0, Gas Sulfur %: 0.0257, Diesel

[6] Emission factors obtained from Mandatory Reporting of Greenhouse Gases; Final Rule, TABLE C–1 TO SUBPART C OF PART 98

[7] Annual Actual Emissions (lb/yr) = Engine Rating (hp) x Loading Factor (%) x Operating Time per Unit (hr/yr) x Number of Units x Emission Factor (g/hp-hr) x Conversion Factor (0.002205 lb/g)

[8] Based on global warming potentials of 25 for CH_4 and 298 for N_2O effective as of 1/1/2014.

2.0 HAP Emissions From Diesel

HAP constituent emission factors obtained from U.S. Environmental Protection Agency, SPECIATE Version 4.4 , Speciation for Medium Duty Trucks (Profile # 4674), Speciation based on tests preformed in 1996
Speciation for construction equipment was not available so the medium duty truck speciation has been used here to estimate HAP emissions. http://www.epa.gov/ttn/chief/software/speciate/index.html

Constituent CAS	Constituent Name	Factor (Weight% VOC)	Actual[1] (lb/yr)	Actual (tons/yr)
106-99-0	1,3-butadiene	0.12	**1.17**	**5.9E-04**
540-84-1	2,2,4-trimethylpentane	0.47	**4.69**	**2.3E-03**
75-07-0	Acetaldehyde	15.04	**150.0**	**7.9E-02**
107-02-8	Acrolein (2-propenal)	1.30	**12.85**	**6.4E-03**
71-43-2	Benzene	1.05	**10.36**	**5.2E-03**
100-41-4	Ethylbenzene	0.18	**1.78**	**8.9E-04**
50-00-0	Formaldehyde	8.51	**84.30**	**4.2E-02**
108-38-3; 106-42-3	M & p-xylene	0.89	**8.81**	**4.4E-03**
78-93-3	Methyl ethyl ketone (2-butanone)	2.86	**28.35**	**1.4E-02**
91-20-3	Naphthalene	0.24	**2.33**	**1.2E-03**
95-47-6	O-xylene	0.32	**3.14**	**1.6E-03**
123-38-6	Propionaldehyde	5.34	**52.9**	**2.6E-02**
108-88-3	Toluene	1.52	**15.05**	**7.5E-03**
132-64-9	Dibenzofuran , also noted as "DBZFUR"	0.011	**0.11**	**5.4E-05**
98-86-2	Acetophenone	1.95	**19.28**	**9.6E-03**
Total:			**403.1**	**0.20**

[1] Emission Factor (Weight% VOC) x VOC Emissions from Diesel Off-Road Equipment / 100 = Actual HAP Emission (lb/yr)

Record of Non-Applicability (RONA) Concerning the General Conformity Rule (40 CFR Part 51)

Name of Project: U.S. Army Reserve Equipment Concentration Site

Location: Caroline County, Virginia

The Proposed Action consists of the construction of a new equipment concentration site. The new equipment concentration site will consist of a tactical equipment maintenance facility, a general purpose warehouse, a vehicle wash rack platform, a bi-level equipment loading ramp, and parking areas for military equipment and privately owned vehicles.

Guidance dictates that a Record of Non-Applicability (RONA) be prepared for federal actions where proposed emissions are clearly *de minimis* in order to comply with the General Conformity Rule (40 *Code of Federal Regulations* [CFR] 51, Subpart W) and the National Environmental Policy Act (NEPA 42 U.S. Code 4231 et seq.).

Conformity under the Clean Air Act, Section 176, has been evaluated for the proposed action in accordance with 40 CFR Part 51. The requirements of this rule are not applicable to this project because both the Preferred Site and the Alternate Site are within an attainment area for all criteria pollutants.

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Michael E. Gates
Lieutenant Colonel, U.S. Army
Commanding

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Date

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