Final
Environmental Assessment
for the Proposed Construction and Operation of the
911th Engineer Company Complex
Fort Belvoir, Virginia
June 2019

(Photo Credit: Staff Sgt. Austin L. Thomas, JFHQNCRMDW Public Affairs)

Finding of No Significant Impact
Proposed Construction and Operation of the
911th Engineer Company Complex
U.S. Army Garrison, Fort Belvoir
Fort Belvoir, Virginia

Name of Action: Proposed Construction and Operation of the 911th Engineer Company Complex

Description of the Proposed Action and Need: The mission of the 911th United Sates Technical Rescue Engineer Company (911th Engineer Company) is to rapidly respond to national emergencies within the National Capitol Region (NCR) in support of military and government facilities and tenants. The current 911th Engineer Company facilities are spread across three geographically separated areas on the North Post of Fort Belvoir. The facilities are inadequate in size and configuration necessary to support the current and future functions, mission needs, and vehicle/equipment maintenance requirements. The current size of all 911th Engineer Company facilities (13,325 square feet) is less than 50 percent of the *UFC 4-214-02* specification for a medium-sized Tactical Equipment Maintenance Facility (TEMF) (36,000 square feet).

The Proposed Action entails the consolidation of these separate facilitates into a single, new 911th Engineer Company Complex (911th EC Complex) located on an approximately 10-acre site located north of Route 1 (Richmond Highway) between the Fairfax County Parkway and Accotink Village, on the North Post of Fort Belvoir. Under the Proposed Action, the 911th EC Complex would include the demolition of two outdated structures at the site, followed by construction of a medium-sized Tactical Equipment Maintenance Facility (TEMF); an organizational equipment storage building; an organizational vehicle storage building; a petroleum, oil and lubricants storage building; a company operations facility; and an outdoor parking area.

The Proposed Action is needed because the current 911th Engineer Company facilities do not meet the Department of Defense United Facilities Criteria (UFC) *4-214-02* requirements for a medium-sized TEMF, and the current location and conditions of the 911th Engineer Company facilities hinder the readiness of the 911th Engineer Company to rapidly respond to national emergencies in the NCR.

Alternatives: The Environmental Assessment (EA) evaluated the Proposed Action and the No Action alternatives. Implementation of the No Action alternative would not meet the medium-sized TEMF requirements of *UFC 4-214-02*, and the 911th Engineer Company facilities would remain geographically separated, inadequate in size, and inefficient in design.

Environmental Consequences: The EA, which is attached hereto and incorporated by reference in its entirety into this Finding of No Significant Impact (FNSI), examines the potential effects of the Proposed Action and the No Action alternative on the following resource areas: aesthetics, air quality, cultural and historic resources, transportation and parking, water resources, land use, geology, topography, and soils, biological resources, noise, socioeconomics, community services, solid and hazardous materials, utilities, and environmental justice.

Summary of Environmental Impacts: Based on the findings of the EA it is anticipated that the Proposed Action would result in no impacts to land use; geology; topography; cultural and historic resources; floodplains; coastal zone management; socioeconomics; environmental justice; and utilities.

Negligible adverse impacts are anticipated from implementing the Proposed Action on aesthetics, transportation, groundwater, vegetation and animal habitat, biological resources, and selected community services. Negligible impacts to aesthetics would be anticipated from the presence of construction equipment, but the impact would be minimized through the use of a privacy fence and retention of existing vegetation to the extent practicable. Negligible impacts to transportation would be anticipated due to a slight increase in vehicle usage on local roadways during construction and operation. Negligible impacts to groundwater would be anticipated due to slightly reduced groundwater recharge due to the increase in impervious surfaces; however, this would be minimized by maintaining pre- and post-development hydrology to the maximum extent technically feasible. Negligible impacts to biological resources would be anticipated from limited tree-clearing efforts during construction resulting in the displacement of common animals making use of the McCutchen Road site during construction. Additionally, negligible impacts to the wood turtle (*Glyptemys insculpta*) could occur from the potential disturbance of stream habitat, and potential impacts to nesting birds from the temporary loss of forest cover; however, these impacts would be minimized by replanting vegetation removed during construction to restore habitat. Replanting would occur at a 2 to 1 ratio for trees 4-inches and greater in diameter at breast height (DBH) and at a 1 to 1 ratio for trees less than 4-inches DBH, while large shrubs (3- to 4-feet high) would be replaced at a 1 to 1 ratio with shrubs of the same size.

Negligible adverse impacts to noise conditions would be anticipated during construction due to typical demolition and construction sounds, and during operation due to the negligible increase in noise generated from staff and maintenance vehicles traveling to and from the new facility. However, sound levels from routine operational training activities involving various construction equipment (jackhammers, excavators, skid steers) may be perceived as a nuisance and thus could have a minor, less-than-significant adverse impact on abutting residential receptors. Negligible impacts to selected community services (police, fire, ambulance) could occur as a result of potential construction-related accidents, but standard construction-related safety practices would be implemented to reduce potential accidents and the need for emergency response services. Negligible impacts associated with solid and hazardous materials management would occur, due to the generation of solid wastes containing regulated-building materials (asbestos-containing material and lead-based paint) during planned demolition of the two existing buildings; the potential impacts to air quality and worker safety from these regulated-building materials would be minimized through proper procedures for abatement (prior to demolition) by trained and licensed workers, and transport and disposal to off-site licensed facilities approved by the Army.

Minor adverse impacts are anticipated from implementing the Proposed Action on several resources. The use of combustion engines in heavy equipment during construction would have a minor impact on air quality. Minor impacts to surface waters would be anticipated from construction in or adjacent to a potentially jurisdictional ephemeral stream. Minor impacts would be anticipated to water quality, wetlands, resource protection areas, and soil (negligible during operation) from potential soil erosion and sedimentation during construction and operational ground-disturbing activities; all appropriate Virginia Stormwater and Erosion and Sediment Control permit requirements would be followed and appropriate temporary erosion and sediment control measures and permanent stormwater BMPs would be implemented to further minimize potential impacts. As previously noted, mitigation for trees and shrubs removed during construction would involve replanting new vegetation at or near the McCutchen Road site.

Additionally, should any potentially contaminated soil require remediation per the separate ongoing RCRA investigation at a portion of the McCutchen Road site, the remediation would occur prior to construction.

The Proposed Action would have a long-term, direct, significant beneficial impact on community services in context of enhancing the ability of the 911th Engineer Company to more rapidly respond to emergencies within the NCR. The Proposed Action would also have a long-term, negligible beneficial impact on aesthetics by improving the McCutchen Road site with a new, modern facility with new entrance signage and professional landscaping. Additionally, construction would have a short-term, minor beneficial impact on socioeconomics through the hiring of local workers and purchasing of construction materials from local vendors to the extent practicable, while operations would have a long-term, negligible beneficial impact from increasing the number of staff employed to support the 911th Engineer Company; staffing would increase from approximately 75 current employees to approximately 100 employees.

Notice of Availability (NOA): Fort Belvoir provided regulatory agencies, federally-recognized Native American Tribes with ancestral ties to the region, and the public with an opportunity to review and comment on the Proposed Action as described in the September 2018 EA. Fort Belvoir announced the release of the September 2018 EA and draft FNSI for a 30-day review and comment period in a NOA published in the Washington *Post*, Mount Vernon *Gazette*, and Springfield *Connection* on November 8, 2018. Copies of the EA and draft FNSI were available for review at the Lorton Branch of the Fairfax County Library in Lorton, Virginia; and both the Sherwood Regional and Kingstowne Branches of the Fairfax County Library in Alexandria, Virginia. The EA and draft FNSI were also available for review on Fort Belvoir's website: http://www.belvoir.army.mil/environdocssection2.asp.

Response to Comments: Comments on the EA were received from several federal, state, and local agencies. None of the comments were in opposition to the Proposed Action. No comments were received from the public. Responses to agency comments, including additional technical analysis and clarification, have been incorporated into the Final EA. To obtain a copy of the Final EA and signed FNSI, visit Fort Belvoir's website: http://www.belvoir.army.mil/environdocssection2.asp. For additional information, please write to: Commander, U.S. Army Garrison Fort Belvoir, ATTN: Directorate of Public Works, Building 1442, 9430 Jackson Loop, Fort Belvoir, VA 22060; via email to imcom.fortbelvoir.dpw.environmental@us.army.mil; or via telephone at (703) 806-3193.

Conclusion: Pursuant to the Council on Environmental Quality (CEQ) regulations; Title 40, CFR Section 1500-1508 regarding procedural implementation of the National Environmental Policy Act (NEPA) of 1969; and implemented for the Army by Title 32 CFR 651, Environmental Analysis of Army Actions, it is anticipated that the Proposed Action would not have a significant adverse effect on the environment and that a FNSI is appropriate. An environmental impact statement (EIS) will not be prepared.

Michael H. Greenberg
Colonel, U.S. Army
Commanding

8/9/19
Date

Reviewed by:
U.S. Army Garrison Fort Belvoir

27 Sep 2018

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Abstract

Lead Agency: Department of the Army

Title of the Proposed Action: Proposed Construction and Operation of the 911th Engineer Company Complex, Fort Belvoir, Virginia

Affected Jurisdiction: Fort Belvoir, Virginia

Prepared By: United States Army Corps of Engineers, Baltimore District

Approved By: Commander, Fort Belvoir, Virginia

Abstract: This Environmental Assessment (EA) analyzes and documents the impacts of the Proposed Action to construct and operate the 911th Engineer Company Complex at Fort Belvoir. A No Action alternative is also included to serve as a baseline against which the impacts of the Proposed Action are evaluated. None of the anticipated impacts from implementing the Proposed Action would result in significant adverse impacts to environmental conditions at Fort Belvoir or the surrounding community. The Proposed Action would incorporate Best Management Practices to ensure that potential minor adverse impacts are maintained at or below less-than-significant levels.

Review Period: The Final EA and Finding of No Significant Impact (FNSI) have been released to the public for general awareness. For additional information, please write to: Commander, U.S. Army Garrison Fort Belvoir, ATTN: Directorate of Public Works, Building 1442, 9430 Jackson Loop, Fort Belvoir, VA 22060-5116, or via email at:imcom.fortbelvoir.dpw.environmental@us.army.mil. For additional information, contact Mr. Felix Mariani, Chief of Environmental and Natural Resources Division at (703) 806-3193. The Final EA and FNSI are available for review on the internet at http://www.belvoir.army.mil/environdocssection2.asp

Printed copies of the Final EA and FNSI are available at the following Fairfax County Public Library branches: Lorton Branch, Kingstowne Branch, and Sherwood Regional Branch.

Executive Summary

ES.1 Introduction

Pursuant to the *National Environmental Policy Act* (NEPA) of 1969, as amended, and 32 Code of Federal Regulations (CFR) Part 651, *Environmental Analysis of Army Actions,* Fort Belvoir has prepared an Environmental Assessment (EA) to evaluate potential environmental and cultural effects associated with the proposed construction and operation of the 911th Engineer Company Complex (911th EC Complex). Accordingly, this EA has been prepared in accordance with NEPA (Title 42, United States Code [USC] §4321 et seq.), NEPA-implementing regulations of the Council on Environmental Quality (CEQ) (40 CFR Parts 1500–1508), and the Army's NEPA-implementing regulations (32 CFR Part 651, *Environmental Analysis of Army Actions*). This EA was prepared concurrently with and integrated with environmental impact analyses and related surveys and studies required by the *Fish and Wildlife Coordination Act* (16 USC §661 et seq.), the *National Historic Preservation Act* of 1966 (16 USC §470 et seq.), the *Endangered Species Act* of 1973 (16 USC §1531 et seq.), other environmental review laws (and their implementing regulations), and Executive Orders.

The mission of the 911th Engineer Company is to rapidly respond to national emergencies within the National Capital Region (NCR) in support of military and government facilities and tenants. The current 911th Engineer Company occupies several different Tactical Equipment Maintenance Facilities (TEMF) across Fort Belvoir. These facilities are geographically dispersed and inadequate in size and location, adversely impacting the functional readiness and needs of the 911th Engineer Company to respond most efficiently to national emergencies within the NCR.

ES.2 Proposed Action

The Proposed Action is to consolidate the 911th Engineer Company from its geographically dispersed and undersized facilities into a single new facility located at the approximately 10-acre McCutchen Road site located along Backlick Road on the North Post of Fort Belvoir. Under the Proposed Action, a new 911th EC Complex would be constructed; the complex would include a medium-sized TEMF facility designed in accordance with Unified Facilities Criteria (UFC) 4-214-02, an organizational equipment storage building, an organizational vehicle storage building, a petroleum, oil and lubricants (POL) storage building, and a company operations facility. In addition to the construction of these buildings, an outdoor parking area would be constructed at the site. Prior to construction, two existing outdated and undersized buildings currently at the site and used by the 911th Engineer Company would be demolished. In accordance with Fort Belvoir's Tree Removal and Protection Policy, trees that are 4 inches or greater in diameter at breast height (DBH) removed during construction would be replaced at a 2 to 1 (2:1) ratio on-post at a location to be determined during the design process, or appropriate "out-of-kind" mitigation. Additionally, trees less than 4-inches DBH and shrubs equal to or greater than 3-feet high would be replaced at a 1 to 1 (1:1) ratio.

ES.3 Purpose and Need

The **purpose** of the Proposed Action is to improve the ability of the 911th Engineer Company to operate more efficiently, improve functionality, and more quickly respond to mission-defined

emergencies, by relocating operations to a consolidated location with a new medium-sized TEMF designed to comply with UFC 4-214-02 requirements.

There is a current and future **need** for rapid emergency response services from the 911th Engineer Company in the NCR, and to meet that need, the Army would construct a new medium-sized TEMF and consolidate the operations of the 911th Engineer Company at a single site within Fort Belvoir.

ES.4 Alternatives

This EA evaluates the Proposed Action and the No Action alternative. Under the No Action alternative, the Proposed Action would not be implemented and conditions of the 911th Engineer Company would remain unchanged. The No Action alternative would not meet the safety and compliance requirements of UFC 4-214-02. No other alternatives were considered that would satisfy the aforementioned purpose and need for the Proposed Action.

ES.5 Environmental Consequences

Environmental Consequences: This EA examines the potential effects of the Proposed Action and the No Action alternative on the following resource areas: aesthetics, air quality, cultural and historic resources, transportation and parking, water resources, land use, geology, topography and soils, biological resources, noise, socioeconomics, community services, solid and hazardous materials, utilities, environmental justice, and cumulative impacts. A summary of potential impacts associated with the Proposed Action and No Action alternative is provided in Executive Summary Table 1.

Summary of Environmental Impacts: Based on the findings of this EA it is anticipated that the Proposed Action would result in no impacts to land use, geology, topography, cultural and historic resources, floodplains, coastal zone management, socioeconomics, environmental justice, and utilities. Negligible adverse impacts are anticipated from implementing the Proposed Action on aesthetics, transportation, groundwater, wetlands, selected community services, and solid and hazardous materials. Minor, less-than-significant adverse impacts are anticipated from implementing the Proposed Action on air quality, noise, surface waters, water quality, resource protection areas, and soil (negligible during operation). These are considered minor impacts because they are detectible but not readily apparent. Both negligible and minor impacts are minimized by the implementation of best management practices (BMPs) during construction and operation.

Moderate adverse impacts are anticipated from implementing the Proposed Action on vegetation and wildlife habitat. These moderate impacts would be reduced through implementation of BMPs and proposed mitigation measures, including compliance with Fort Belvoir's Tree Removal and Protection Policy and by following the Virginia Department of Game and Inland Fisheries (VDGIF)'s wood turtle protection guidelines.

The Proposed Action would have a long-term, direct, beneficial impact on community services in the context of enhancing the ability of the 911th Engineer Company to provide rapid emergency response support within the NCR. The Proposed Action would also have a negligible beneficial impact on aesthetics. Additionally, construction would have a short-term, minor beneficial impact on socioeconomics.

ES. 6 Conclusions

Pursuant to CEQ regulations, 40 CFR Parts 1500-1508 regarding procedural implementation of NEPA and implementation for the Army by 32 CFR Part 651, *Environmental Analysis of Army Actions*, it is anticipated that the Proposed Action would not have a significant impact of an adverse nature on the environment.

Executive Summary Table 1. Summary of Potential Impacts

Resource	Proposed Action	No Action Alternative
Aesthetics	Short-term, direct, negligible, adverse impact from construction activities. Long-term, direct, negligible, beneficial impacts from new, modern facility consistent with UFC standards.	Long-term, direct, negligible, adverse impacts due to continued deterioration of existing buildings.
Air Quality	Short-term, direct, minor, adverse impact from construction equipment emissions.	No Impacts
Cultural and Historic Resources	No Impacts	No Impacts
Transportation and Parking	Short-term and long-term, direct, negligible adverse impacts to transportation due to minor traffic increases on local roadways from construction vehicles and operational staff vehicles.	No Impacts
Water Resources	Potential for minor impacts to surface water due to construction affecting nearby ephemeral stream. Minor, indirect impacts to water quality and wetlands from increased soil erosion and sedimentation, which would be minimized through compliance with applicable permitting requirements. Minor adverse impacts on the RPA due to vegetation clearing. Negligible impacts to groundwater recharge from the increase in impervious surfaces.	No Impacts
Land Use	No Impacts	No Impacts
Geology, Topography, and Soils	No impacts to geology and topography. Minor impacts to soil due to potential erosion and sedimentation from soil surface disturbance during construction activities.	No Impacts
Biological Resources	Long-term, moderate but less-than-significant adverse impacts to vegetation and wildlife habitat from tree clearing and loss of forest cover. Impacts would be minimized by maintaining existing trees during operation and through implementation of mitigation measures, such as tree replanting in accordance with Fort Belvoir's Tree Removal and Protection Policy and compliance with time-of-year restrictions for northern long-eared bats.	No Impacts
Noise	Short-term and long-term, direct, less-than-significant adverse impacts to noise conditions from construction equipment, operational equipment and training exercises, and staff vehicle travel on local roadways.	No Impacts

Resource	Proposed Action	No Action Alternative
Socioeconomics	Minor beneficial impacts due to the employment of local construction workers and purchasing of materials from local vendors.	No Impacts
Community Services	Negligible short-term impacts to community services (police, fire/emergency response) due to potential construction-related accidents. Long-term, beneficial impact by enhancing 911th Engineer Company support service response times within the NCR.	Adverse impact on 911th Engineer Company response times within the NCR.
Solid and Hazardous Materials	Negligible impacts associated with demolition of asbestos-containing materials and lead-based paint present at existing buildings. Other regulated building materials identified during a predemolition survey would be managed and disposed of per applicable federal and state regulations.	No Impacts
Utilities	No Impacts	No Impacts
Environmental Justice	No Impacts	No Impacts

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1.0 Introduction

Fort Belvoir, an approximately 8,500-acre United States (U.S.) Army Post, is located in the Commonwealth of Virginia (VA), 14 miles south of Washington, District of Columbia (DC). Fort Belvoir's 7,682-acre Main Post is situated primarily on a peninsula of the Potomac River, and the 807-acre Fort Belvoir North Area (FBNA, previously known as the Engineer Proving Ground) is located inland, northwest of Interstate 95 (Figure 1). As a strategic sustaining Post for America's Army in the National Capital Region (NCR), Fort Belvoir provides logistical, intelligence, and administrative support to a diverse group of more than 140 Army and Department of Defense (DOD) organizations. Fort Belvoir contributes to the nation's defense primarily by providing a secure operating environment for regional and worldwide DOD missions and functions. The garrison also provides housing, medical services, recreational facilities, and other support services for active duty military members and retirees in the NCR.

Fort Belvoir is home to the 911th U.S. Army Technical Rescue Engineer Company (911th Engineer Company), assigned to the 12th Aviation Battalion, Army Air Operations Group, Military District of Washington. The mission of the 911th Engineer Company is to rapidly respond to national emergencies within the NCR in support of military and government facilities and tenants. The 911th Engineer Company trains on five different technical rescue disciplines: rope rescue, confined space, structural collapse, trench, and mine and tunnel rescue. The 911th Engineer Company comprises combat engineers, firefighters, horizontal and vertical construction engineers, and various support military occupational specialties who receive training and certification as rescue technicians and mine rescuers. The 911th Engineer Company is currently assigned 72 military personnel. There are no civilians attached to the 911th Engineer Company.

1.1 Existing Conditions

The 911th Engineer Company occupies several different Tactical Equipment Maintenance Facilities (TEMF) across Fort Belvoir. These geographically separate facilities are located within the Lower North Post (depicted on Figure 2) and summarized below:

McCutchen Road

- The approximately 10-acre site is located north of Route 1 (Richmond Highway), between Fairfax County Parkway and Accotink Village.
- The site is currently improved with Buildings 2476 and 2477 and a parking area.
- Building 2476, constructed in 1963, is used for a vehicle maintenance shop, emergency response vehicle storage, and training activities.
- Building 2477, constructed between 2004 and 2007, is a modular building located adjacent to the west side of Building 2476 and is used for maintenance activities.
- Approximately 40 personnel from the 911th Engineer Company work at this location.

Marine Corps Detachment at Gunston Road Site

- Company operations headquarters occupies an approximately 4,150-square-foot (SF) portion of Building 2105/2305, which was constructed in 1975.
- Approximately 20 personnel from the 911th Engineer Company work at this location.

Goethals Road Site

- The motor pool and vehicle maintenance operations are performed at this site. These operations utilize a portion of Building 1950, which was constructed in 1963. Additionally, Building 1984 houses pumps and pressure-washing equipment. This site also includes three wash islands, two vehicle wash racks attached to an oil/water separator, one tactical vehicle wash rack, one 250-gallon aboveground storage tank (AST) for used oil, and one 100-gallon AST for gasoline.
- This site includes an open area used to store tactical vehicles, heavy equipment, generators, CONEX containers, and sheds to store hazardous and waste materials.
- Approximately 14 personnel from the 911th Engineer Company work at this site.

1.2 Functional Assessment

Unified Facilities Criteria (UFC) 4-214-02, *United States Army Corps of Engineers (USACE), Department of the Army Facilities Standardization Program, Tactical Equipment Maintenance Facilities (TEMF) Standard Design Guidance*, dated 23 January 2012 (UFC 4-214-02) specifies the requirements for a medium-sized TEMF. Accordingly, the current size of the 911th Engineer Company facilities is less than 50 percent of the size specified in UFC 4-214-02 (Table 1).

Table 1. 911th Engineer Company Existing Facility Size versus UFC TEMF Standard

Functional Area	Existing Facility Size (SF)	UFC 4-214-02 Medium TEMF Design Standard
Core Area (Administrative and Support)	4,150	11,080 NSF*
Repair Area (Vehicle Maintenance Shop)	9,175	17,152 NSF
Maximum Allowable Gross Area	--	36,000 GSF*

*The nominal square footage (NSF) shown for each space is used for programming purposes and as a basis for computing the maximum allowable gross area of the facility. The gross square footage (GSF) shown for the maximum allowable gross area refers to the sum of all areas on all floors of a building included within the outside faces of its exterior walls, including all vertical penetration areas for circulation and shaft areas that connect one floor to another.

The current conditions of the 911th Engineer Company facilities are considered to be "antiquated and severely deteriorated" (Fort Belvoir, 2017a). There is a corresponding deficit of organizational vehicle parking and storage, which further impacts day to day operations and readiness. Representative photographs of the existing vehicle maintenance shop and grounds at the McCutchen Road site (taken in November 2017 and April 2019) are provided in Photographs 1 through 5.

The geographical and physical constraints of the current 911th Engineer Company facilities are poorly configured to support current and anticipated future functions, mission needs, and vehicle/equipment maintenance requirements, as specified in UFC 4-214-02. This has led to an increase in critical rapid response times for the 911th Engineer Company by as much as one hour (Fort Belvoir, 2017a).

Figure 1. Fort Belvoir Layout

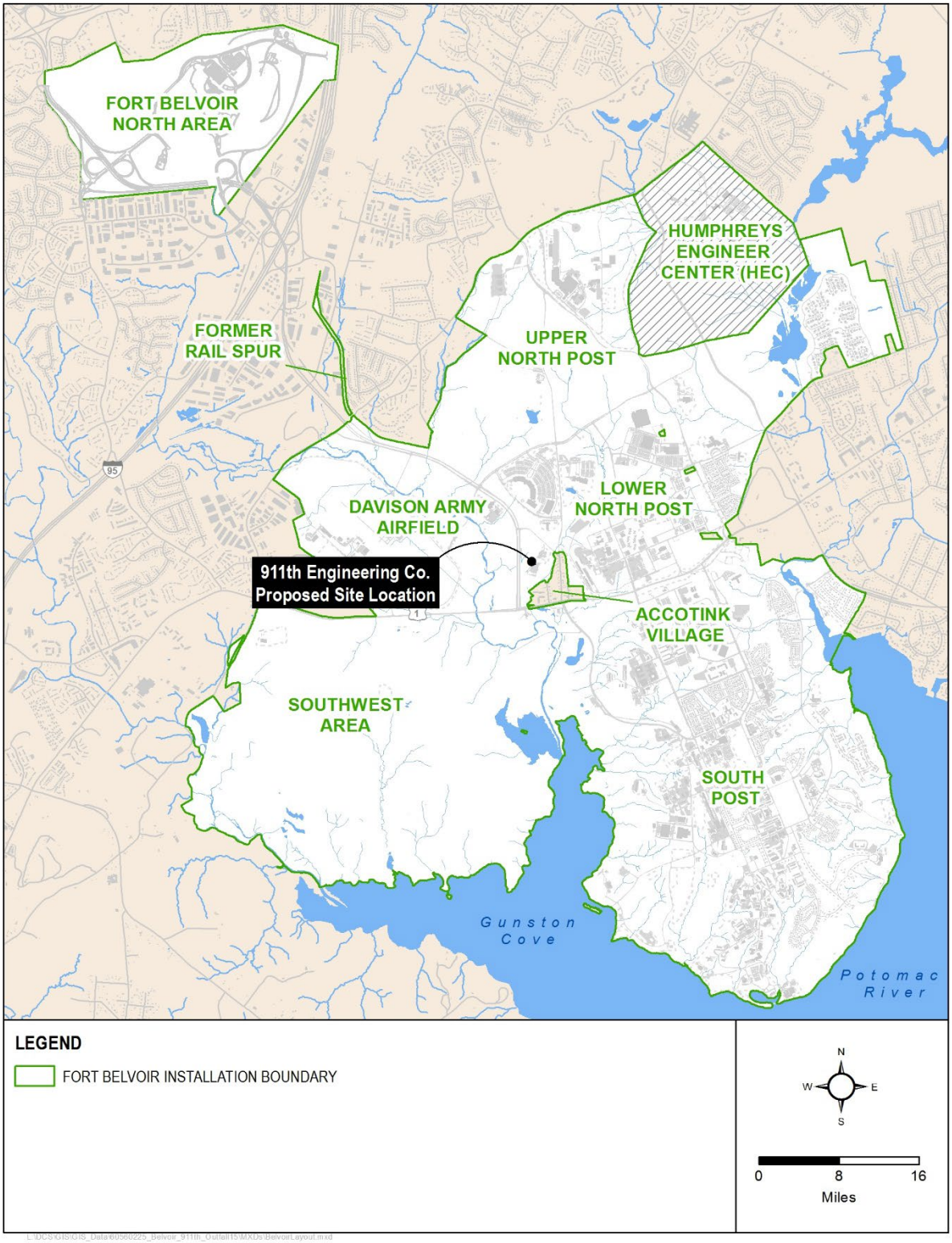
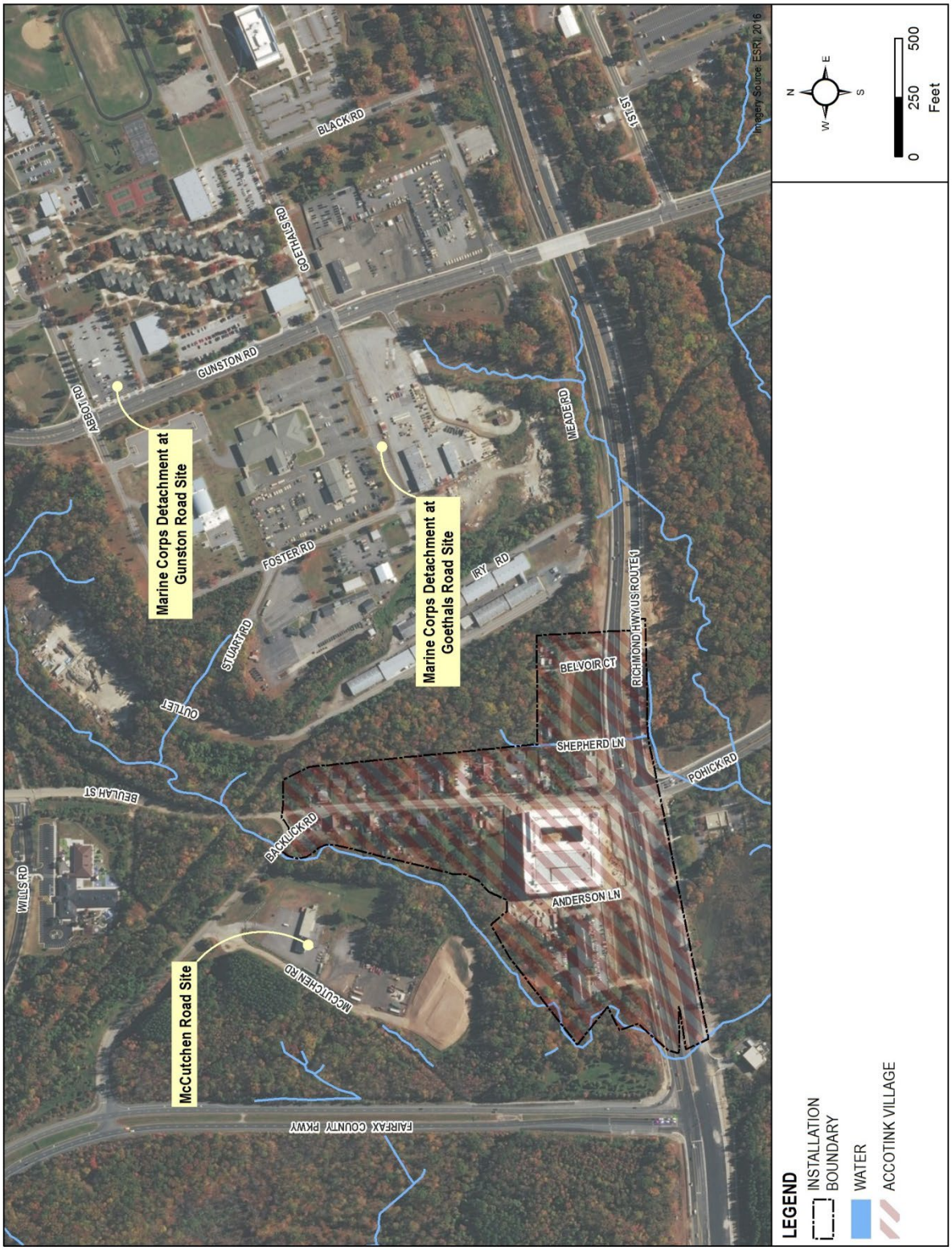


Figure 2. 911th Engineer Company – Current Facility Locations



Photographs 1 through 5

	Photo 1. Existing 911th Engineer Company vehicle maintenance shop at the McCutchen Road site. Buildings 2476 and 2477 are visible in the center of the photograph. Neither facility meets current medium-sized TEMF design standards. View is to the north.
	Photo 2. Eastern portion of the 911th Engineer Company grounds at the McCutchen Road site. Supplies are stored outside on vegetated grounds. Beyond the tree line is the residential area along Backlick Road. View is to the east.
	Photo 3. An unpaved, unsecured road provides access to the existing 911th Engineer Company facilities at the McCutchen Road site. View is to the north.

	Photo 4. The southern portion of the existing 911th Engineer Company facility at the McCutchen Road site. Equipment and supplies are stored on an unpaved, unsecured dirt lot. View is to the south/southeast.
	Photo 5. Detailed view of southern portion of existing 911th Engineer Company facility at the McCutchen Road site. The proposed new RTA would be located in a portion of this area, near the large soil mound in the background. The top of the Belvoir Square apartment complex is partially visible beyond the tree line.

1.3 Purpose and Need for the Proposed Action

The **purpose** of the Proposed Action is to improve the ability of the 911th Engineer Company to operate more efficiently, improve functionality, and more quickly respond to mission-defined emergencies, by relocating operations to a consolidated location with a new medium-sized TEMF designed to comply with UFC 4-214-02 requirements and additional supporting infrastructure.

There is a current and future **need** for rapid emergency response services from the 911th Engineer Company in the NCR; and to meet that need the Army would construct a new medium-sized TEMF and consolidate the operations of the 911th Engineer Company at a single site within Fort Belvoir.

The Proposed Action under consideration involves consolidating the 911th Engineer Company operations at the approximately 10-acre McCutchen Road site (Figure 3). Although there are wetlands and a stream at the site (Figure 4), the design for the new facility would avoid development of these sensitive resources. As previously described, the existing buildings at the McCutchen site (Buildings 2476 and 2477) are inadequate in size and condition and therefore would be demolished as part of the Proposed Action. A medium-sized TEMF would then be constructed at the McCutchen Road site. The 911th Engineer Company would consolidate all operations at this new facility. Further details regarding the specific elements of the Proposed Action are provided in Section 2.

Figure 3. Proposed 911th Engineer Company Complex at the McCutchen Road Site

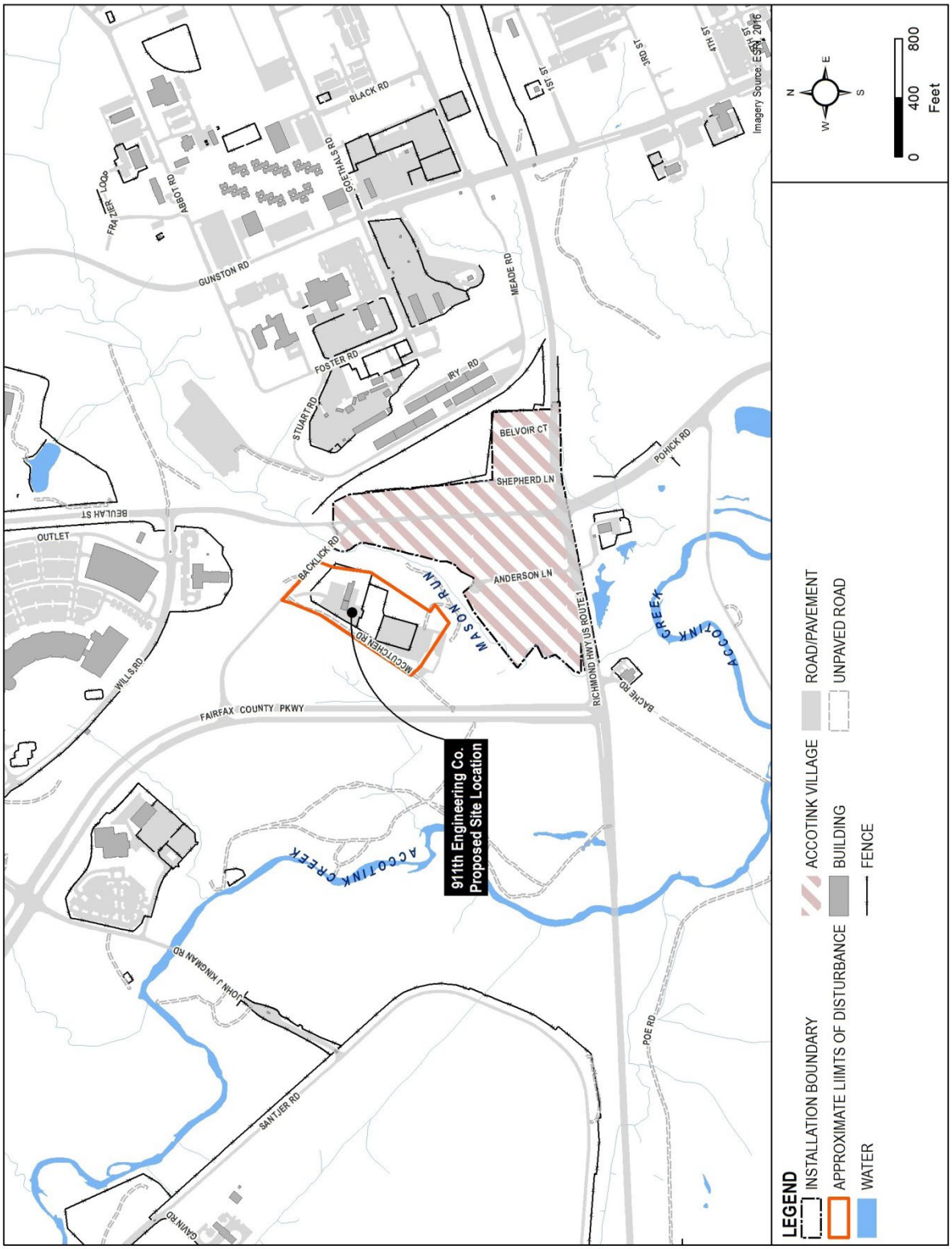
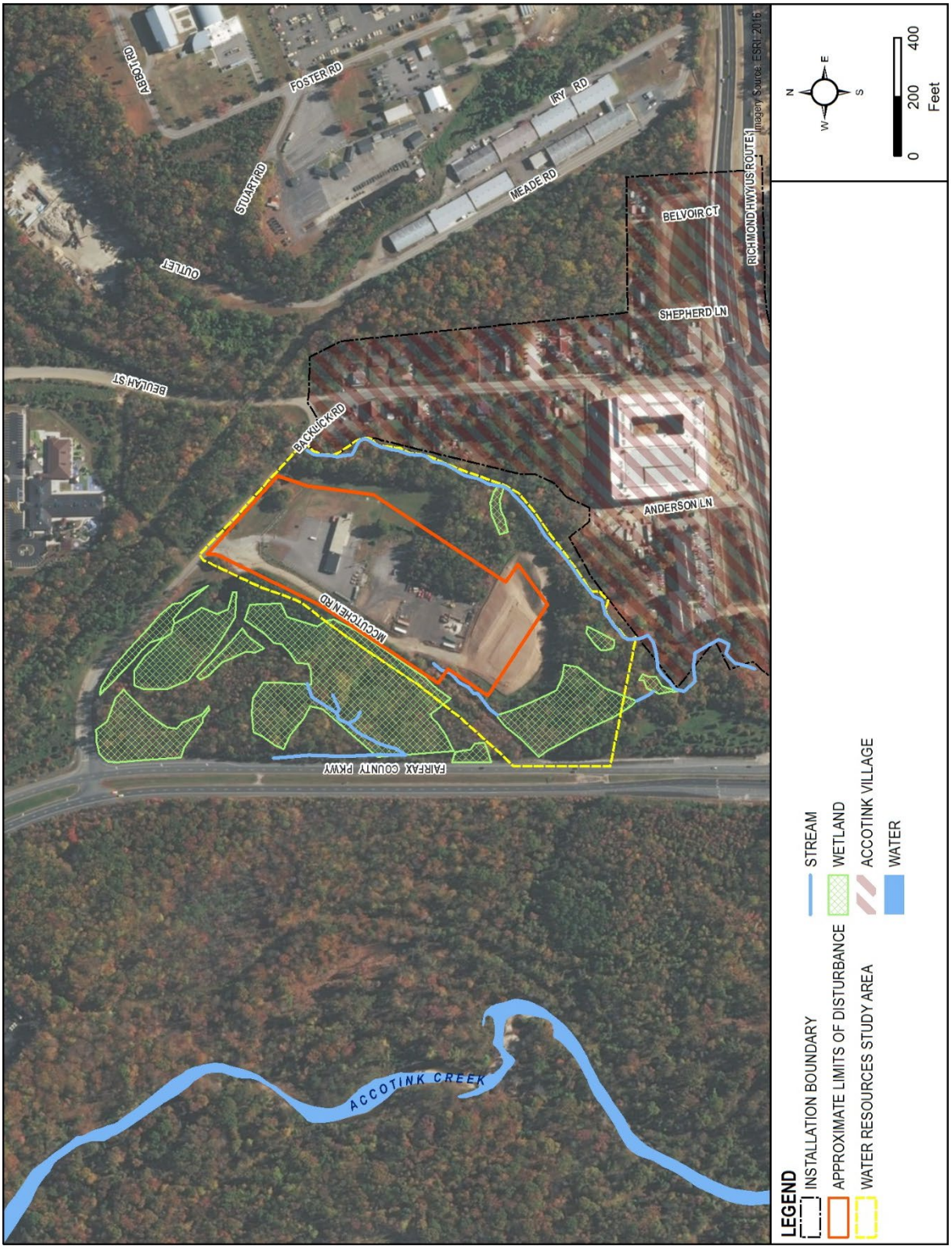


Figure 4. Wetlands and Streams at the McCutchen Road Site



1.4 The NEPA Process

The *National Environmental Policy Act* (NEPA) of 1969 established the national policy for the environment and for the Council on Environmental Quality (CEQ) and provides for the consideration of environmental issues in federal agency planning and decision-making. To implement the NEPA policies, CEQ promulgated the *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR Parts 1500-1508, referred to as the CEQ Regulations). Both NEPA and the CEQ Regulations require that federal agencies establish procedures to comply with the intended purpose of NEPA. Both also require federal agencies to encourage and facilitate public involvement as part of the NEPA process.

Army procedures to comply with NEPA are set forth in 32 CFR Part 651, *Environmental Analysis of Army Actions*. These regulations establish the Army policies and responsibilities to integrate environmental considerations early in the decision-making process. Instructions on preparing NEPA documentation and carrying out public and agency coordination are provided in the subject regulations.

Under the guidance provided in NEPA and in 32 CFR Part 651, either an Environmental Impact Statement (EIS) or an Environmental Assessment (EA) must be prepared for most federal actions. Actions that are determined to be exempt by law, selected emergencies, or categorically excluded do not require the preparation of an EA or EIS. It is also possible for federal actions to prepare a Record of Environmental Consideration in light of changes to current NEPA project conditions to ascertain the need for supplemental documentation. If an action may significantly affect the environment, an EIS is prepared. An EA provides sufficient evidence and analysis for determining whether to prepare an EIS. The contents of an EA include the need for the proposed action, alternatives to the proposed action, environmental impacts of the proposed action and alternatives, and documentation of agency coordination.

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

1.5 Agency and Public Participation

NEPA requires that environmental information is made available to the public during the decision-making process and prior to actions being taken. A premise of NEPA is that the quality of federal decisions will be enhanced if proponents provide information to the public and involve the public in the planning process. NEPA, the Intergovernmental Coordination Act, and Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, require federal agencies to cooperate with and consider territorial and local views when implementing a federal proposal.

In compliance with NEPA, Fort Belvoir notified relevant government agencies, stakeholders, and federally recognized tribes about the Proposed Action and alternatives. The notification process provided these agencies and groups the opportunity to cooperate with Fort Belvoir and to provide

comments on the Proposed Action and alternatives. Fort Belvoir received comments from the following federal, state and local agencies:

- National Capital Planning Commission – December 06, 2018
- U.S. Environmental Protection Agency – December 06, 2018
- Fairfax County, Virginia – February 14, 2019
- Virginia Department of Environmental Quality – February 15, 2019
- Virginia Department of Conservation and Recreation – February 19, 2019

None of the comments received were in opposition to the Proposed Action or required substantive revisions to the analyses or conclusions presented in the September 2018 EA, with the exception of the noise resource analysis. In response to comments from US EPA and Fairfax County regarding potential impacts to residential receptors from proposed operational noises, Fort Belvoir measured sound levels generated by the 911th Engineer Company during routine operational training activities at their Goethals Road facility and to represent the anticipated sound levels generated during similar training at the proposed McCutchen Road site. The sound survey results are incorporated in this Final EA. Comments from all agencies have been addressed in this Final EA. Appendix A contains copies of agency coordination and communication associated with the Proposed Action, as well as a summary matrix of responses to agency comments regarding the September 2018 EA.

Additionally, Fort Belvoir provided the public an opportunity to review and comment on the Proposed Action as described in the September 2018 EA. Fort Belvoir announced the public release of the September 2018 EA and draft FNSI in a Notice of Availability (NOA) published in the *Washington Post*, *Mount Vernon Gazette, and Springfield Connection* on November 8, 2018. A copy of the NOA and affidavits of publication are provided in Appendix A. Copies of the EA and draft FNSI were also available in the Lorton Branch, Kingstowne Branch, and Sherwood Regional Branch of the Fairfax County Public Library system for public review. Fort Belvoir did not receive any public comments on the September 2018 EA.

1.6 Compliance with Federal Environmental Statutes and Executive Orders

The Army's decisions that affect environmental resources and conditions occur within the framework of numerous laws, regulations, and EOs. Some of these authorities prescribe standards for compliance, while others require specific planning and management actions to protect environmental values potentially affected by Army actions. These include, but are not limited to:

- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Chesapeake Bay Preservation Act and Chesapeake Bay Agreement
- Chesapeake Restoration Act of 2000
- Coastal Zone Management Act (CZMA)
- Noise Control Act
- Endangered Species Act (ESA)
- Migratory Bird Treaty Act (MBTA)
- Farmland Protection Policy Act (FPPA)
- National Historic Preservation Act (NHPA)

- Archeological Resources Protection Act (ARPA)
- Resource Conservation and Recovery Act (RCRA)
- Toxic Control Substance Act (TSCA)
- Federal Insecticide and Fungicide Rodenticide Act
- Sikes Act
- Energy Independence and Security Act (EISA)
- Executive Order 11988 (Floodplain Management)
- Executive Order 11990 (Protection of Wetlands)
- Executive Order 12088 (Federal Compliance with Pollution Control Standards)
- Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations)
- Executive Order 13045 (Protection of Children from Environmental Health Risks and Safety Risks)
- Executive Order 13693 (Planning for Federal Sustainability in the Next Decade)

Where applicable, these statutes and Executive Orders are described in more detail in the text of the EA.

2.0 Description of Proposed Action and Alternatives

NEPA, and the regulations of CEQ, require all reasonable alternatives to be rigorously explored and objectively evaluated. Accordingly, this chapter summarizes the process used to develop alternatives and provides a description of the subsequently selected Proposed Action and its alternatives, as well as alternatives considered but ultimately eliminated from further analysis, and the reasons for elimination.

2.1 Proposed Action

In 2015, Fort Belvoir completed a Real Property Master Plan that established the framework for developing and managing real property at Fort Belvoir through the year 2030 (U.S. Army, 2015). The Proposed Action was identified as Short-Term Project 49 (ST 49) in that Master Plan. The Army subsequently refined the elements of the Proposed Action, which were described in detail in the *Military Construction, Army Program Development Department of Defense Form 1391/Project Number 70935*, dated 8 February 2017 (Fort Belvoir, 2017a).

Based on Form 1391, the Proposed Action would consolidate the 911th Engineer Company at the McCutchen Road site. Prior to new construction of the 911th Engineer Company Complex (911th EC Complex), the existing buildings (Buildings 2476 and 2477) at the McCutchen Road site would be demolished. Prior to demolition, a survey for regulated building materials (e.g., asbestos, lead, polychlorinated biphenyls [PCBs]) would be performed. The survey results would be used to determine the appropriate federal and state requirements for pre-demolition material handling, demolition waste material transportation, and final off-site disposal requirements at an EPA-permitted disposal facility. The proposed layout and alignment of the new 911th EC Complex buildings are presented on Figure 5.

Construction of the new buildings would be consistent with the requirements in the Fort Belvoir *Installation Design Guide*; UFC 4-010-01*, Department of Defense Minimum Antiterrorism Standards for Buildings*; and UFC 4-010-02*, Department of Defense Minimum Antiterrorism Standoff Distance for Buildings.* The buildings would be designed to a minimum life of 40 years in accordance with DOD UFC 1-200-02 for energy efficiency, building envelope, and integrated building systems performance. Antiterrorism/force protection measures would be implemented, including laminated glass windows in reinforced frames, reinforced exterior doors, security lighting, fencing, barriers, and visual screening. The proposed size of each building, shown in Table 2, meets UFC 4-214-02 requirements, which is 36,000 GSF for a medium-sized TEMF. Construction of the new facility would take approximately three years to complete (projected construction period is from January 2019 through October 2021).

Table 2 shows that the proposed TEMF at the 911th EC Complex would be 35,290 GSF. Thus, the proposed new facility would meet the size requirements specified under UFC 4-214-02 (see Table 1). In addition to the TEMF, there will be five other buildings and one outdoor parking area constructed as part of the 911th EC Complex at the McCutchen Road site.

Figure 5. Planning Site Sketch - Proposed 911th EC Complex at the McCutchen Road Site

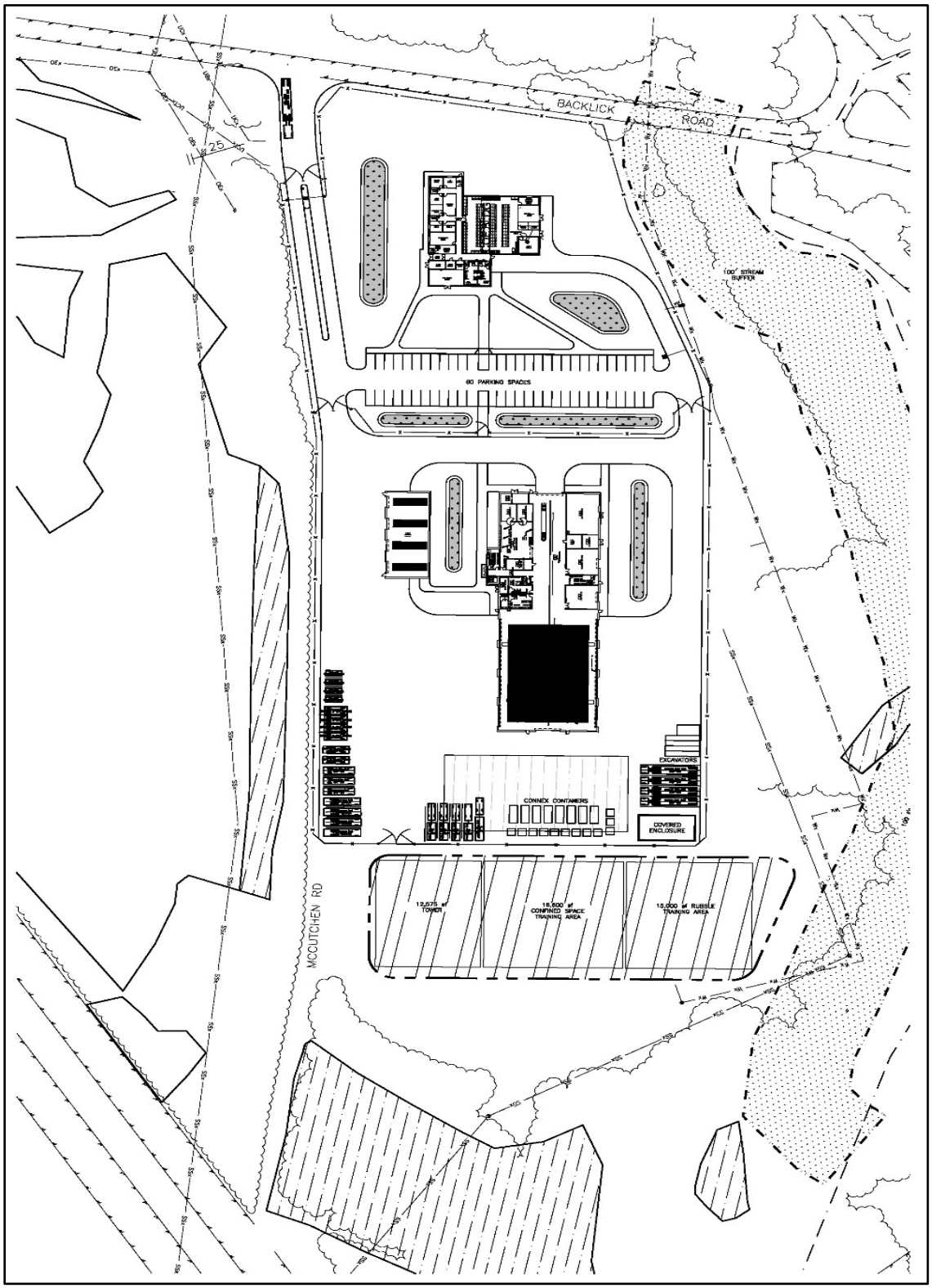


Table 2. Proposed 911th EC Complex Facility Details

Buildings	**Area**
Tactical Equipment Maintenance Facility	35,290 GSF
Organizational Equipment Storage Building	4,400 SF
Organizational Vehicle Storage, Tactical	11,999 SF
Petroleum, Oil, and Lubricants (POL) Storage Building	120 SF
Hazardous Waste Storage Building	120 SF
Company Operations Facility: Admin Module Readiness Module	 5,300 SF 6,700 SF
Outdoor Parking	**Area**
Organizational Vehicle Parking	107,991 SF (2.48 Acres)

Under the Proposed Action, the new facility infrastructure would also include the following supporting elements:

- Special foundations and connection to Energy Monitoring Control Systems (EMCS)
- Intrusion Detection Systems (IDS) installation
- Fire alarm and suppression and building information system
- Utilities
    - Electrical services currently purchased by Fort Belvoir from Dominion Virginia Power and distributed throughout the installation over Government-owned lines, would continue under the Proposed Action.
    - Potable water - Water is supplied to Fort Belvoir by Fairfax County. A new 6-inch, ductile iron line and a new 2-inch RPVC line would be installed.
    - Gas - A new 2-inch gas line would be installed (extended from existing underground line on Backlick Road).
    - Sanitary sewerage (connect to existing lines)
    - A water pump for the fire suppression system
- Paved access road leading into the facility from Backlick Road
- Grading to convey stormwater away from buildings
- Heating and air conditioning - Heating will be provided by a self-contained system. Connection will be made to a new 2-inch diameter gas line. The ready availability of gas is expected to continue with an annual anticipated cost increase. Air conditioning will be provided by self-contained systems (estimated at 150 tons). Chilled water would be used.

The Proposed Action incorporates the following design elements for selected buildings, as well as sustainability elements that apply to all aspects of the project (as described in Fort Belvoir, 2017a).

Vehicle Maintenance Shop: The minimum requirement for this facility includes four (4) bays with 16-foot high bay doors to accommodate excavator arm length in extended position. The response vehicles that are used by the 911th Engineer Company contain sensitive equipment, including environmental meters and battery-operated equipment that require indoor climate

control storage. These vehicles do not necessarily need to be stored in the Vehicle Maintenance Facility. However, the equipment needs to be stored in a climate-controlled warehouse with at least four (4) bays.

Vehicle Storage Building: A total of five (5) bays are required to house the Mobile Command Trailer; Emergency Tactical Vehicles R1, R2, and R3; and the strap-loaded High Mobility Multipurpose Wheeled Vehicle and trailer. Due to the special mission requirements of the 911th Engineer Company, these tactical vehicles are maintained in an uploaded state. The equipment packages on these vehicles require indoor storage. These packages include breathing air apparatus that must remain above freezing, and sensitive communication equipment and presentation technology that would be damaged by environmental exposure.

Company Operations Facility: A standard design (12,000 SF) individual Company Operations Facility (COF) for up to 100 personnel is authorized for the 911th Engineer Company, which is currently assigned 72 military personnel. The COF for 911th Engineer Company needs sufficient storage space for Organizational Clothing and Individual Equipment, as well as specialized Personal Protective Equipment for authorized personnel.

Mission Essential Vulnerable Area (MEVA): It is likely that the 911th EC Complex would be declared MEVA. This would require the complex to be surrounded with a hardened barrier. The Proposed Action site is located outside of the secured portion of Fort Belvoir and additional protection features would be installed, including FE-6 rated fencing (2-inch chain mesh supported on posts no farther than 10 feet apart, with each section of fence braced by two rails and a truss for added stability, with three-strand barbed wire upper edge) and K-12 rated barriers (crash barrier to stop a 15,000-pound vehicle traveling at 50 miles per hour from entering a perimeter or building for the purpose of presenting a bomb threat).

Fire Flow Pressure: The 911th Engineer Company site would follow applicable fire code requirements, including UFC 3-600-01. Due to flow issues, fire pumps would be required at the site. One fire hydrant would be required for each building within the site. Additionally, the fire hydrant would be located within 150 feet of the fire department connection. Fire department access within 33 feet of all buildings would be required. The fire department would also have access to any new gate features at the site.

Sustainability: Sustainability principles, to include life cycle cost-effective practices, would be integrated into the design, development, and construction of the project, and would follow the guidance detailed in the Army Sustainable Design and Development Policy, complying with applicable laws and EOs.

Active and passive solar energy would be considered and included if cost effective. The use of energy efficient design and the most economical combination of energy sources would minimize any anticipated increase in operational energy costs.

Environmentally Sensitive Design: This Proposed Action design avoids development in floodplains, wetlands, and surface water bodies. Any trees removed during construction that are 4 inches or greater in DBH would be replaced on-post at a 2:1 ratio with native, non-invasive species, while trees less than 4-inches DBH and shrubs 3-feet or greater in height would be

replaced at a 1:1 ratio. At least 60 percent of debris from the construction and demolition in the Proposed Action would be recycled.

Accessibility: This project would be designed for accessibility and usability by individuals with disabilities. The estimated count of civilian employees and civilian users is 15. Accessibility for disabilities would be accommodated in the administrative area only. The nature of the operation is such that it would be operated by military personnel without disabilities.

Operational Staffing and Maintenance: The Proposed Action would accommodate up to 100 authorized Engineer Company Personnel, including 25 Support Platoon Personnel, Rescue Platoon Personnel, and other administrative and maintenance personnel.

Current procedures for physical infrastructure maintenance and operation of the 911th Engineer Company would continue to be implemented. Deployments, primarily associated with training, would occur approximately monthly. Routine outdoor training within the site would occur six to ten weeks per year, for several days each of those weeks. Training activities may include one or more jackhammers, excavators, and other equipment operating simultaneously. Lights and sirens would not be used during training operations.

The existing vegetated boundary between the McCutchen Road site and the adjacent residential properties and religious institution would be maintained during operations to further reduce potential adverse operational noise or visual impacts on these adjacent properties.

2.2 Alternatives Considered

NEPA requires considering a range of reasonable alternatives that would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluating the comparative merits of the alternatives. An EA need not consider every conceivable alternative to a project; rather it must consider a reasonable range of potentially feasible alternatives that would foster informed decision making and public participation. An EA is not required to consider alternatives that are infeasible.

The following sections present the alternatives to the Proposed Action.

2.2.1 No Action Alternative

NEPA regulations refer to the continuation of the present course of action without the implementation of, or in the absence of, the Proposed Action, as the "No Action alternative." Inclusion of the No Action alternative is required by the regulations to provide a baseline against which the impacts of other alternatives can be assessed.

Under the No Action alternative, the Proposed Action would not be implemented. The 911th Engineer Company would continue to operate from its current geographically separate locations in facilities that are functionally inadequate and not in compliance with design standards for a medium-sized TEMF. Increased levels of maintenance would be required to maintain the antiquated and severely deteriorated facilities in functional order. There would continue to be corresponding deficits of organizational vehicle parking and storage. The condition and configuration of the facilities and the lack of adequate command and control space would continue to degrade the 911th Engineer Company's ability to properly train for and more rapidly respond to

emergency events, negatively impacting the efficiency of maintenance operations and compromising unit mission readiness. Therefore, the No Action alternative would not satisfy the aforementioned purpose and need.

2.2.2 Alternatives Identified but Eliminated from Further Consideration

The following potential action alternatives were discussed and eliminated from further consideration as part of the planning charrette conducted with multidisciplinary Subject Matter Experts at Fort Belvoir on 15 and 17 February 2011 (U.S. Army, 2015).

Renovation of Existing Facilities – The existing facilities provide less than 50% of the space requirements needed by the 911th Engineer Company. Additionally, these facilities are not consolidated at one site. Therefore, renovating the existing facilities would not provide the required space needs nor consolidate the buildings at a central 911th EC Complex. This alternative is non-viable.

Renovation/New Construction Mix – Renovation of existing facilities would not fulfill the space shortfall, as previously noted. However, if Buildings 2476 and 2477 were renovated, there would not be sufficient area for development of new buildings within the McCutchen Road site. This alternative is non-viable.

Leasing – Due to the deployable nature of the unit and the proximity required to its Aerial Port of Embarkation during a contingency operation, there is no suitable leased space that meets this need. Additionally, the Chief of Staff of the Army has directed that organizations in the NCR exit lease space whenever possible due to rental costs in the Metropolitan District of Columbia area. This alternative does not satisfy the requirements of the 911th Engineer Company's mission. This alternative is non-viable.

Other Facilities on Post; As Is, Renovation, or Renovation/New Construction Mix – There are no existing facilities on Fort Belvoir that would support this alternative; Fort Belvoir has an extreme shortfall of facilities within the applicable category codes available to meet the needs of the 911th Engineer Company. All existing facilities are currently occupied by other agencies that will remain on the installation, do not meet the specific requirements of these agencies and are not suitable from new construction of additional space, or have already been planned and are being updated for backfill by other agencies relocating to the installation or increasing in mission. This alternative is non-viable.

Other Department of Defense or Federal Agency Facilities – No adequate existing facilities are available to house the 911th Engineer Company in the NCR. Both Military District of Washington and Headquarters personnel have determined that Fort Belvoir is the most effective operational location for the 911th Engineer Company to meet the project objective. This alternative is non-viable.

Contracting Services Out – These are exclusively governmental function activities that cannot be contracted out. This alternative is non-viable.

Innovative Alternatives or Combinations of the Above Alternatives – Due to physical and other constraints regarding development at Fort Belvoir, no additional valid combinations of alternatives, other than the identified Proposed Action, are possible. This alternative is non-viable.

Government Owned Contractor Operated Facility – The Government has determined this alternative to be non-viable.

Therefore, this EA examines in depth only the following two alternatives, the Proposed Action and the No Action alternative, defined as follows:

Proposed Action: To improve the ability of the 911th Engineer Company to operate more efficiently, improve functionality, and more quickly respond to mission-defined emergencies, the Proposed Action would involve constructing and operating a new 911th EC Complex at the 10-acre McCutchen Road site located on the Lower North Post of Fort Belvoir and consolidating future 911th Engineer Company activities at this one location. Under the Proposed Action, two existing buildings at the site would be demolished, allowing for construction of the 911th EC Complex, which would include a new medium-sized TEMF, sized in accordance with UFC 4-214-02, as well as an organizational equipment storage building, an organizational vehicle storage building, a POL storage building, a company operations facility, and an outdoor parking area. Selected trees removed during construction would be replaced on-post with native, non-invasive varieties at a 2:1 ratio (trees ≥4-inches DBH) or at a 1:1 ratio (trees <4-inches DBH and shrubs ≥3-feet tall).

No Action Alternative: The 911th Engineer Company would continue to operate from its current geographically separate locations, in facilities that are functionally inadequate and undersized for a medium-sized TEMF. There would continue to be corresponding deficits of organizational vehicle parking and storage. The condition and configuration of the facilities and the lack of adequate command and control space would continue to degrade the 911th Engineer Company's ability to properly train for and more rapidly respond to emergency events, negatively impacting their efficiency and compromising unit mission readiness.

3.0 Affected Environment and Environmental Consequences

3.1 Introduction

This section presents an analysis of the potential environmental consequences of implementing the Proposed Action and the consequences of selecting the No Action alternative. Each alternative was evaluated for its potential impacts on physical, biological, and socioeconomics resources in accordance with CEQ guidelines at 40 CFR Part 1508.8.

The specific criteria for evaluating the potential environmental impacts of the Proposed Action and the No Action alternative are described in the following sections. The significance of an action is also measured in terms of its context and intensity. The context and intensity of potential environmental impacts are described in terms of duration, whether they are direct or indirect, the magnitude of the impact, and whether they are adverse or beneficial, as further defined in the following paragraphs:

Short-term or long-term. Short-term impacts are those that would occur only with respect to a particular activity, for a finite period, or only during the time required for construction or installation activities. Long-term impacts are those that are more likely to be persistent and chronic.

Direct or indirect. A direct impact is caused by an action and occurs around the same time at or near the location of the action. An indirect impact is caused by an action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action.

Negligible, minor, moderate, or significant. These terms are used to characterize the magnitude or intensity of an impact. Negligible impacts are those that might be perceptible but are at the lower level of detection. A minor impact is slight, but detectable. A moderate impact is readily apparent. Significant impacts are those that, in their context and due to their magnitude (severity), have the potential to meet the thresholds for significance set forth in CEQ regulations (40 CFR Part 1508.27) and thus warrant heightened attention and examination for potential means for mitigation to fulfill the policies set forth in NEPA. Significance criteria by resource area are presented in the following sections.

Adverse or beneficial. An adverse impact is one having unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment.

3.2 Aesthetics

3.2.1 Affected Environment

The McCutchen Road site is the proposed location for the new 911th EC Complex (Figure 6). It is an approximately 10-acre previously disturbed area of land located on the Lower North Post. The site is bordered to the east, west, and south by dense vegetation (shrubs, trees), which obstructs views into and out of the site from these sides. Only the northern portion of the site is visible to passersby traveling past the entrance gate along Backlick Road. From the northern border, passersby are able to view Buildings 2476 and 2477, staff vehicles parked in front of (to the north) and to the eastern side of the buildings, and fencing around the northern site boundary.

Figure 6. Aesthetic Conditions at and in the Vicinity of the McCutchen Road Site

Within the site, the aesthetics are influenced by physical improvements including the entrance gate, buildings, parking areas, storage areas, and the paved entrance road leading south from Backlick Road to the paved parking area north of Buildings 2476 and 2477. The aesthetics are most influenced by Building 2476, located towards the center of the paved parking area, and Building 2477, located immediately west of and adjacent to Building 2476. Other features include numerous storage containers located to the southwest of Buildings 2476 and 2477. These improvements are surrounded by chain-link fencing.

Within the site, but outside of the chain-link fenced area, the aesthetics are influenced by an unpaved maintenance road located along the western boundary of the site, extending from Backlick Road to the southern portion of the site, where a large grass-covered soil stockpile is present. There are no barriers or fencing to prevent unauthorized users from traveling on this maintenance road and gaining access to the central and southern portions of the site.

The majority of the site interior has been cleared of trees, with the exception of a densely forested area in the southern/central portion of the site. There are grass-covered areas to the north and east of the paved parking area and buildings. As previously noted, the site is bordered by a forested area to the east, west, and south.

Currently, nighttime lighting is limited to the paved parking area in front of the buildings.

Beyond the site, the aesthetic conditions are dominated by dense forest to the west and Fairfax County Parkway beyond; Backlick Road to the north and forest beyond; and Accotink Village to the east. Accotink Village is an approximately 34-acre enclave within Fort Belvoir and consists of approximately 14 homes, three apartment complexes, one community group, and two religious institutions, generally bisected north-south by Backlick Road. The nearest residences within Accotink Village are separated from the operational portions of the site by dense forest approximately 100 to 450 feet wide, depending on the position along the eastern site boundary. This forested area obstructs the view of the site from the residential areas. The two larger multistory apartment complexes (Haven Fort Belvoir Apartments and Belvoir Square Apartments) are located approximately 300 feet south of the site's southern border, also obscured from view by dense forest approximately 150-300 feet wide. The third apartment complex (The Courts at Belvoir) located east of Backlick Road is obscured from view of the site by the 5-story Belvoir Square Apartment building.

3.2.2 Environmental Consequences

3.2.2.1 Threshold of Significance

An alternative could significantly affect aesthetics if it results in abrupt changes to the complexity of the landscape and skyline (i.e., in terms of vegetation, topography, or structures) when viewed from points readily accessible by the public.

3.2.2.2 Impacts of the Proposed Action.

Construction. Construction of the proposed 911th EC Complex would take approximately 2.75 years (January 2019-October 2021) to complete. Heavy equipment would be required to demolish the two existing buildings and to construct the TEMF, organizational equipment storage building, organizational vehicle parking, equipment storage and oil storage buildings, a vehicle storage

facility, and supporting utility upgrades. The dense forest that surrounds the site would effectively obstruct the view of these construction activities to receptors located to the east and south of the site. Only passersby traveling on Backlick Road, past the northern site entrance, would be able to view these construction activities.

To further limit visual impacts during construction, the construction contractor would implement Best Management Practices (BMP), such as utilizing temporary construction privacy fencing along the northern site border, to further obstruct views of the site during the construction phase, and maintaining the existing vegetative buffers around the 911th EC Complex.

Construction equipment traveling to and from the site would be visible to receptors along Backlick Road. However, the majority of this equipment would be anticipated to access Backlick Road from Fairfax County Parkway, entirely avoiding the residential area located along the eastern portion of Backlick Road.

Construction equipment can often become dust-laden before leaving the site. These vehicles could generate fugitive dust emissions, which can lead to nuisance concerns, such as reduced visibility on nearby roadways. To avoid this impact, the construction contractor would use water trucks to prevent fugitive dust from being emitted into the air. Additionally, dirt and debris would be physically removed from construction vehicles prior to their leaving the site. Likewise, haul trucks transporting debris would be covered to further minimize dust emissions as they travel on area roadways.

Although construction would require the removal of a number of existing trees, mitigation would be provided for trees lost to construction. Removal of any trees that are 4-inches and greater in DBH would be replaced at a 2:1 ratio, while trees <4-inches DBH and shrubs ≥3-feet tall would be replaced at a 1:1 ratio on-post with native, non-invasive varieties. If this is not possible, an alternative mitigation method, such as stream restoration or Partners-In-Flight habitat enhancement, would be pursued.

Considering the natural viewshed obstructions and incorporation of construction BMPs, construction of the Proposed Action would have a short-term, direct, negligible, adverse impact on aesthetics.

Operation. The new facilities for the proposed 911th EC Complex are anticipated to be up to three stories tall (Fort Belvoir, 2017a). The surrounding vegetation and trees would obstruct the 911th EC Complex from view by receptors to the east and south of the site. The northern portion of the proposed 911th EC Complex would be visible to passersby traveling past the site entrance along Backlick Road.

The operation of the 911th EC Complex would require minimal nighttime lighting, including low-intensity security lighting around the new buildings (pointing inward to the site, toward the buildings). Vegetation around the new facility would effectively obscure the view of this nighttime lighting, with the exception of potential lighting of the entrance gate along Backlick Road. However, there are no receptors located north of the entrance gate. Therefore, the operational nighttime lighting would not be disruptive to nearby receptors or increase receptors' view of the 911th EC Complex.

The Proposed Action would improve the aesthetic appearance of the 911th Engineer Company facilities and the landscaping conditions at the McCutchen Road site, compared with current conditions. The proposed 911th EC Complex would incorporate environmentally sensitive designs and have a modern façade consistent with regional architectural aesthetics. During operation, new landscaping within the site would be professionally maintained to ensure the upkeep of the grounds and associated physical infrastructure. These operational improvements and maintenance activities would result in staff and the community having a greater sense of pride for the activities of the Army at Fort Belvoir.

Considering the natural viewshed obstructions, combined with infrastructure and landscaping improvements, operation of the Proposed Action would have long-term, direct, negligible but beneficial impact on aesthetics.

3.2.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, there would be no changes to the current aesthetic conditions at the McCutchen Road site. The existing buildings, equipment storage piles, parking areas, and surrounding vegetation would remain unchanged. Although maintenance would be performed, the current buildings at the site would continue to deteriorate. As a result, there would be long-term, direct, negligible, adverse impacts to aesthetics under the No Action alternative.

3.3 Air Quality

Air pollution occurs when harmful substances, including solid particles and gases, are introduced into the earth's atmosphere. It can cause harm to the natural environment, including humans, animals, and plants. Air quality refers to the pollution-free ambient air. The lower the air quality the more polluted the air, and the higher the quality the more pollutant-free the air. In the following sections, air quality in the vicinity of the Proposed Action site is described, applicable laws and regulations are explained, and potential impacts are assessed.

3.3.1 National Ambient Air Quality Standards

The United States Environmental Protection Agency (USEPA), under the requirements of the 1970 *Clean Air Act* (CAA) as amended in 1977 and 1990, has established National Ambient Air Quality Standards (NAAQS) for the following six contaminants, referred to as criteria pollutants (40 CFR 50):

- Carbon monoxide (CO)
- Lead
- Nitrogen dioxides (NO_x)
- Ozone (O_3)
- Sulfur dioxide (SO_2)
- Particulate matter (PM), divided into two size classes:
    - Aerodynamic size less than or equal to 10 micrometers (PM_{10})
    - Aerodynamic size less than or equal to 2.5 micrometers ($PM_{2.5}$)

The NAAQS include primary and secondary standards. The primary standards were established at levels sufficient to protect public health with an adequate margin of safety. The secondary standards were established to protect the public welfare from the adverse effects associated with

pollutants in the ambient air. Table 3 (derived from: https://www.epa.gov/criteria-air-pollutants/naaqs-table) shows the primary and secondary standards.

Table 3. National Ambient Air Quality Standards

NAAQS Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide	Primary	8-hour	9 ppm	Not to be exceeded more than once per year
		1-hour	35 ppm	
Nitrogen Dioxide	Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
	Primary and secondary	Annual	53 ppb	Annual Mean
Ozone	Primary and secondary	8-hour	0.070 ppm	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particular Matter ($PM_{2.5}$)	Primary	Annual	12 µg/m^3	Annual mean, averaged over 3 years
	Secondary	Annual	15 µg/m^3	Annual mean, averaged over 3 years
	Primary and secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
Particular Matter (PM_{10})	Primary and secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Lead	Primary and secondary	Rolling 3-month average	0.15 µg/m^3	Not to be exceeded
Sulfur Dioxide	Primary	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

The CAA, as amended in 1990, mandates that state agencies adopt State Implementation Plans (SIP) that target the elimination or reduction of the severity and number of violations of the NAAQS. SIPs set forth policies to expeditiously achieve and maintain attainment of the NAAQS. While each state has the authority to adopt standards stricter than those established under the federal program, the Commonwealth of Virginia accepts the federal standards.

Because Fairfax County is a nonattainment area for the 2008 8-hour O_3 NAAQS, the Commonwealth of Virginia, in coordination with Metropolitan Washington Council of Governments (MWCOG), developed a SIP that outlined the actions that would be taken to achieve the NAAQS. The current USEPA-approved regional air quality plan is the *Plan to Improve Air Quality in the Metropolitan Washington, DC-Maryland (MD)-VA Region: State Implementation Plan (SIP) for 8-Hour Ozone Standard* (MWCOG, 2007). Within this plan, Virginia Department of Environmental Quality (VDEQ) compiles a regional emissions inventory and sets regional emissions budgets.

Federal regulations designate Air Quality Control Regions (AQCR) that have concentrations of one or more of the criteria pollutants that exceed the NAAQS as *nonattainment areas*, while

AQCRs with levels below the NAAQS are designated as *attainment areas*. Further, *maintenance areas* are AQCRs that have previously been designated nonattainment and have been redesignated to attainment for a probationary period through implementation of maintenance plans. According to the severity of the pollution problem, O_3 and PM_{10} nonattainment areas can be categorized as marginal, moderate, serious, severe, or extreme. Where insufficient data exist to determine an area's attainment status, it is designated unclassifiable or in attainment.

3.3.2 Existing Air Quality Conditions

Fairfax County (which encompasses Fort Belvoir) is within the National Capital Interstate AQCR (AQCR 047 or DC-MD-VA AQCR) (40 CFR 81.12). AQCR 047 is in the ozone transport region (OTR) that includes 12 states and Washington, DC. As of March 31, 2019, USEPA has designated Fairfax County as having the following attainment criteria (USEPA, 2019):

Marginal nonattainment for the 2008 and 2015 8-hour O_3 NAAQS
Attainment for all other criteria pollutants

On December 20, 2017, the Metropolitan Washington Air Quality Committee submitted a request to the USEPA to redesignate the DC-MD-VA AQCR, which Fort Belvoir is within, from nonattainment to attainment for 2008 8-hour O_3 NAAQS (MWCOG, 2017). As of the date of this EA, a decision on the redesignation request has not yet been issued by the USEPA.

3.3.3 Clean Air Act Conformity

The 1990 amendments to the CAA require federal agencies to ensure that their actions conform to the SIP in a nonattainment area. Under Section 176(c) of CAA, a project is in "conformity" if it corresponds to a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving their expeditious attainment.

Conformity further requires that such activities would not:

cause or contribute to any new violations of any standards in any area;
increase the frequency or severity of any existing violation of any standards in any area; or
delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The USEPA published final rules on general conformity (40 CFR Parts 51 and 93) in the Federal Register on November 30, 1993. The General Conformity Rules (GCR) apply to federal actions in nonattainment or maintenance areas for any of the criteria pollutants. The rules specify *de minimis* emission levels by pollutant to determine the applicability of conformity requirements for a project. The corresponding *de minimis* levels for the ozone precursors for marginal O_3 nonattainment areas are 100 tons per year for NO_x and 50 tons per year for volatile organic compounds (VOCs). A federal action is exempt from the GCR requirements if the action's total net emissions are below the *de minimis* threshold or are otherwise exempt per 40 CFR 51.153. There are two main components to the overall process: an applicability analysis to determine whether a conformity determination is required and, if it is, a conformity determination to demonstrate that the action conforms to the SIP.

3.3.4 Hazardous Pollutants

In addition to the criteria pollutants discussed above, non-criteria toxic pollutants, called hazardous pollutants (HAPs), are also regulated under the CAA. USEPA has identified a total of 188 HAPs that are known or suspected to cause health effects in small doses. HAPs are emitted by a wide range of man-made and naturally occurring sources, including mobile and stationary sources. However, unlike the NAAQS for criteria pollutants, federal ambient air quality standards do not exist for non-criteria pollutants.

3.3.5 Greenhouse Gas Emissions and Climate Change

It is noted that EO 13783 rescinded the final guidance issued on August 5, 2016, by the Council on Environmental Quality (CEQ) that requires federal agencies to consider GHG (greenhouse gases) emissions and the effects of climate change in NEPA reviews. However, EO 13693, *Planning for Federal Sustainability in the Next Decade*, outlines policies intended to ensure that federal agencies evaluate climate change risks and vulnerabilities, and to manage the short-term and long-term impacts of climate change on their operations and mission. EO 13693 specifically requires agencies within the DOD to measure, report, and reduce their GHG emissions from both their direct and indirect activities. Additionally, DOD has committed to reduce GHG emissions from non-combat activities 34 percent by 2020 (DOD, 2015). As such, this EA estimates CO_2 levels associated with the Proposed Action as appropriate for disclosure purposes. Further, this EA considers CO_2 as the representative GHG emission.

GHGs are compounds that contribute to the greenhouse effect. The greenhouse effect is a natural phenomenon where gases trap heat within the surface-troposphere (lowest portion of the earth's atmosphere) system, causing heating at the surface of the earth. The primary long-lived GHGs directly emitted by human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

The heating effect from these gases is considered the probable cause of the global warming observed over the last 50 years (NASA, 2018). Global warming and climate change can affect many aspects of the environment. In the past, the USEPA has recognized potential risks to public health or welfare and signed an endangerment finding regarding GHGs under Section 202(a) of the CAA (74 FR 66496, December 15, 2009), which found that the current and projected concentrations of the six key well-mixed GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. To estimate global warming potential (GWP), all GWPs are expressed relative to a reference gas, CO_2, which is assigned a GWP equal to 1. All six GHGs are multiplied by their GWP and the results are added to calculate the total equivalent emissions of CO_2 (CO_2e). However, the dominant GHG gas emitted is CO_2 (accounting for 82.2% of all GHG emissions as of 2015, the most recent year for which data are available (USEPA, 2018a).

Current GHG emission sources at Fort Belvoir include combustion engines, boilers, chillers, water heaters, and emergency generators. CO_2 emissions at Fort Belvoir most recently reported in 2014 were 29,899 metric tons. The emission total is the amount reported annually under the requirements of 40 CFR Part 98 and does not include GHG emissions from mobile sources or emergency generator use.

3.3.6 Fort Belvoir Title V Permit

Title V of the CAA Amendments of 1990 requires states and local agencies to permit major stationary sources. As a major stationary source for emissions, Fort Belvoir operates under a Title V Permit (permit number NVR070550). The current installation-wide Title V Permit had an expiration date of March 21, 2008, but because Fort Belvoir submitted a renewal application by the regulatory deadline, the current permit does not expire until the VDEQ either issues or denies a renewal permit, which it has not done to date. All terms and conditions of the Title V Permit issued on March 21, 2003, remain in effect.

As part of its Title V Permit, Fort Belvoir calculates permanent source emissions annually. Construction and vehicle emissions are not included in the calculation of annual emissions because these emission sources are temporary and not regulated by Title V of the CAA. Total emissions from significant sources at Fort Belvoir for 2014 (the most recent year for which data were readily available) are shown in Table 4. Emission totals do not include stationary sources that are not significant under Title V and/or otherwise subject to permit terms or restrictions. Primary stationary emission sources at Fort Belvoir include boilers, generators, degreasers, chemical use and painting operations, and other operational and maintenance activities.

Table 4. Emissions for Permitted Stationary Sources (tons/year)

SO_2	CO	PM_{10}	$PM_{2.5}$	NO_X	VOCs
0.30	23.94	2.23	1.55	40.29	3.06

Source: Data from 2014 (VDEQ, 2014)

3.3.7 Environmental Consequences

3.3.7.1 Threshold of Significance

A project could have a significant air quality effect if it would result in emissions that exceed applicability thresholds, be regionally significant, or contribute to a violation of any federal, state, or local air regulation.

3.3.7.2 Impacts of the Proposed Action.

Construction. The Army has considered net emissions generated from all direct and indirect sources of air emission that are reasonably foreseeable. *Direct emissions* are emissions that are caused or initiated by a federal action and occur at the same time and place as the action. *Indirect emissions* are defined as reasonably foreseeable emissions that are caused by the action but might occur later in time and/or be farther removed in distance from the action itself, and that the federal agency can practicably control.

Specifically, direct emissions would result from the construction of the proposed 911th EC Complex. There are no anticipated indirect emissions associated with the construction of the Proposed Action.

As previously described, AQCR 047 is currently in nonattainment for O_3. Therefore, since construction associated with the Proposed Action would result in the emissions of precursors of

this nonattainment air pollutant, a review has been conducted to determine if the Proposed Action is subject to the GCR.

Information regarding the number of pieces and types of construction equipment to be used on the project, the schedule of equipment use, and the approximate daily operating time was calculated using the estimations provided for the Proposed Action, which was identified by Short-Term Project 49 ("ST49") in the Fort Belvoir Final Environmental Impact Statement (FEIS): Short-term Projects and Real Property Master Plan (RPMP) Updated, Volume 2 from June 2015 (US Army, 2015) and through field experience from similar projects.

The total project construction emissions associated with the use of heavy construction equipment (e.g., bulldozers, backhoes), worker vehicles, architectural coatings, paving off-gases, and fugitive dust from surface disturbances are presented in Table 5. Emissions for the other criteria pollutants that are considered to be negligible for various phases of construction are reported as non-applicable (N/A) in the associated table.

As shown in Table 5, the total estimated emissions for construction of the Proposed Action would be below the GCR *de minimis* thresholds.

Table 5. Total Project Construction Emissions

Phases	Construction Emissions (tons per year [tpy])					
	CO	**NOx**	**PM**	**SO_2**	**VOC**	**CO_2**
Heavy Construction Equipment Emissions	1.7626	1.8692	0.0879	0.0044	0.2808	406.5358
Worker Vehicle Emissions	0.3493	0.0296	0.0023	0.0011	0.0062	0.1058
Architectural Coating Emissions	N/A	N/A	N/A	N/A	0.3340	N/A
Paving Off-Gas Emissions	N/A	N/A	N/A	N/A	0.0033	N/A
Fugitive Dust Emissions	N/A	N/A	0.1017	N/A	N/A	N/A
Total Emissions	2.1119	1.8988	0.1919	0.0055	0.6243	406.6416
GCR *de minimis* Emission Levels	100	100	100	100	50	---

Source: USEPA, 1995, 2018; SCAQMD, 2018

Construction of the 911th EC Complex could additionally result in fugitive dust generation and associated emission of fugitive dust into the air. In order to limit these potential emissions, the construction contractor would implement the following BMPs:

- Implement dust suppression methods to include application of water, construction scheduling, and maintaining limited and decreased on-site vehicle speed limits.

- Stabilize exposed soil with vegetation or mulching to minimize erosion and subsequent dust generation.
- Construction vehicles will travel on paved roads within Fort Belvoir and vicinity at speeds at or below posted limits. On unpaved surfaces, vehicle speeds will be maintained at or below 5 miles per hour to prevent dust generation of exposed soil.
- Visually monitor all construction activities on a daily basis, and particularly during extended periods of dry weather.

Therefore, construction would have a short-term, direct, minor, adverse impact on air quality.

Operation. Operation of the 911th EC Complex would generate emissions from the use of heavy equipment (one 22-ton crane, two excavators, response vehicles) during training, when intermittently running a backup emergency generator, and when running building heating and cooling (HVAC) systems. However, no substantive new non-mobile or mobile emission sources would be created compared to current conditions. Additionally, emissions from operation of the proposed 911th EC Complex would likely be similar to or lower than emissions generated at the three facilities currently utilized by the 911th Engineer Company, primarily because the proposed new HVAC equipment would be more energy efficient than the older existing systems. In sum, emissions from operational activities are anticipated to be lower than the construction-related emissions, and therefore operation of the Proposed Action also would not lead to an exceedance of the GCR *de minimis* thresholds.

Therefore, the operation of the Proposed Action would have no adverse impact on air quality. Additionally, the Proposed Action does not require a formal conformity determination. A Record of Non-Applicability (RONA) concerning the GCR is provided in Appendix B, which details the emissions estimates and the methodology used.

3.3.7.3 Impacts of the No Action Alternative.

Under the No Action alternative, no short- or long-term changes in emissions quantities or types would occur. Therefore, under the No Action alternative, current baseline air emissions would continue unchanged for the foreseeable future. There would be no short-term or long-term, direct or indirect, significant, adverse or beneficial impacts to air quality.

3.4 Cultural and Historic Resources

3.4.1 Site History

The lands encompassing Fort Belvoir were held by Colonel Williams Fairfax and his family from 1741 to 1783 when most of their holdings were destroyed by a fire The Fort Belvoir peninsula was purchased in the 1840s by the Otterback family who converted the property into a highly successful fishery.. In 1910, the District of Columbia purchased approximately 1,500 acres of the land, with the intent of constructing a children's reformatory. Facing considerable opposition from local residents, the land was subsequently transferred to the War Department in 1912. Fort Belvoir was established during World War I as Camp A.A. Humphreys and renamed as Fort Belvoir in the 1935 (DC Military, 2013; AECOM, 2014). The property has been developed and continues to be used to support military functions.

3.4.2 Affected Environment

Cultural resources for the purposes of this EA include "historic properties" as defined under the NHPA of 1966, as amended, namely any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places (NRHP). To be eligible for listing in the NRHP, a resource must meet specific criteria of significance and integrity. In general, resources that are less than 50 years old are not eligible for listing, unless they are determined to have exceptional importance.

Section 106 of NHPA requires federal agencies to consider the effects of their proposed undertakings on historic properties within the undertaking's "Area of Potential Effects" (APE) in coordination with the State Historic Preservation Office (SHPO) with jurisdiction on the undertaking's location, and other consulting parties, as applicable. The SHPO in Virginia is the Virginia Department of Historic Resources (DHR). The APE is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties or prehistoric sites, if any are present. For the undertaking considered in the EA, the APE consists of the approximately 10-acre McCutchen Road site as shown on Figure 5.

3.4.2.1 Cultural Resources within the APE

Archaeological Resources

There are no recorded archaeological sites at or adjacent to the McCutchen Road site. Two known sites are located nearby: Site 44FX0458, a historic/military site that was determined not to be NRHP-eligible in 1993; and Site 44FX1810, a prehistoric site located near the intersection of Route 1 and the Fairfax County Parkway. Site 44FX1810 was identified in the *Archaeological Survey of Proposed Area of Potential Effects Route 1 Improvements at Fort Belvoir (telegraph Road to Mount Vernon Memorial Highway), Fairfax County, Virginia* as a potentially eligible site

Architectural Resources

There are two buildings on the McCutchen Road site: Building 2476 and Building 2477. Building 2477 is a one story semi-permanent structure that was constructed between 2004 and 2007 and has no potential to meet the criterion of exceptional significance. Building 2476 was built in 1963. The modern-styled building was built with white cinderblocks, a poured concrete foundation, and a flat metal roof. Building 2476 was determined ineligible for listing on the National Register of Historic Places in the *50 Building DOE of 2016* (VDHR File No. 2017-0493). Fort Belvoir concluded that the demolition of both buildings would result in a "No Historic Properties Affected" determination and requested comment from the VA SHPO and selected Native American Tribes. The VA SHPO on 25 September 2018 issued a letter concurring with the determination of "No Historic Properties Affected" (a copy of the letter is provided in Appendix A). The Catawba Indian Nation on 5 October 2018 issued a letter indicating they had no immediate concerns regarding traditional cultural properties, sacred sites, or Native American archaeological sites within the Project Study Area, but did request they be notified if remains or artifacts are inadvertently discovered during ground disturbing activities (a copy of the letter is provided in Appendix A). No responses have been received from other Native American Tribes to date.

Fort Belvoir and the surrounding area are rich in archaeological resources. NRHP-eligible resources in the vicinity of the McCutchen Road site include Fairfax County-designated properties, including portions of the Fort Belvoir Military Railroad (approximately 250 feet to the north of the site), the Camp A.A. Humphreys Pump Station & Filter Building (approximately 1,200 feet to the southeast), and the Accotink United Methodist Church (approximately 450 feet to the east of the site).

3.4.3 Environmental Consequences

3.4.3.1 Threshold of Significance

An alternative could have an adverse impact if it caused an unavoidable adverse effect on historic properties under Section 106. Adverse effects that can be adequately minimized or mitigated in compliance with Section 106 and in consultation with the SHPO and other applicable parties are generally considered less-than-significant impacts for the purposes of NEPA.

3.4.3.2 Impacts of the Proposed Action.

Construction. There are no archaeological sites within the McCutchen Road site; therefore, construction of the proposed 911th EC Complex would not affect archaeological resources. Sites 44FX0458 and 44FX1810 are outside the limits of the project's ground disturbance (including proposed mitigation areas that would be used for replanting) and would not be affected. Construction equipment will be staged so that it will not be operated or parked within Site 44FX1810.

Both buildings currently on the McCutchen Road site—Building 2476 and Building 2477—would be demolished. As previously described in Section 3.4.1.1, neither building is eligible for listing in the NRHP. Therefore, construction of the Proposed Action would not affect any NRHP-listed properties and would have no impact on cultural resources.

Construction activities would generate noise and aesthetic impacts, but these impacts would be temporary and have no potential to affect the integrity of the cultural resources near the McCutchen Road site, including the Fort Belvoir Military Railroad, the Camp A.A. Humphreys Pump Station & Filter Building, and Accotink United Methodist Church.

During construction there may be potential for inadvertently discovering previously unknown archaeological resources. Should an inadvertent discovery occur, the construction contractor would immediately cease all ground disturbing activities. Should human remains or other cultural items, as defined by NAGPRA, be discovered during project construction, the construction contractor would immediately cease work until a qualified archeologist, the VA SHPO, and the Catawba Indian Nation are contacted to properly identify and appropriately treat discovered items in accordance with applicable state and federal law(s).

Following review of the September 2018 EA in January 2019, the DHR issued a letter dated February 15, 2019, reiterating that Fort Belvoir previously coordinated this project with agency staff pursuant to Section 106 of the NHPA. DHR concurred with the Army that the proposed undertaking will have No Adverse Effect on historic properties. A copy of this correspondence is provided in Appendix A.

Operation. Operation of the proposed 911th EC Complex has no potential to affect archaeological resources. Although training operations would generate noise from intermittent jackhammering and operation of excavators, given the distance and the existing general noise environment (dominated by vehicular traffic along Richmond Highway and Fairfax County Parkway and air operations at Davison Army Airfield), this operational noise is not anticipated to affect the setting of the nearby resources, including Accotink United Methodist Church, in a manner that could compromise their integrity and result in an adverse effect. Vegetation and distance would obscure the view of the site from Accotink United Methodist Church and the Camp A.A. Humphreys Pump Station & Filter Building, with no potential for adverse visual impacts on these resources. Additionally, because of the character of the resource, the Fort Belvoir Military Railroad has no potential to be indirectly affected by proposed operational activities at the McCutchen Road site.

3.4.3.3 Impacts of the No Action Alternative.

Under the No Action alternative, the proposed 911th EC Complex would not be constructed, and no changes would occur to existing archaeological and architectural resources within and surrounding the McCutchen Road site. Therefore, there would be no impacts to cultural and historic resources under the No Action alternative.

3.5 Transportation and Parking

3.5.1 Affected Environment

Transportation

Direct access to Fort Belvoir from Interstate-95 (I-95) is primarily via the Fairfax County Parkway (Route 7100 via Exit 166) with alternate access points at Lorton Road (Exit 163) and U.S. 1 (Exit 161). The Fairfax County Parkway is a divided four-lane limited-access highway that links Fort Belvoir with I-95, as well as the northern and western parts of Fairfax County.

The McCutchen Road site is accessible from Backlick Road. The Fairfax County Parkway intersects with the western end of Backlick Road. Richmond Highway Route 1 intersects with the southeastern end of Backlick Road. Beulah Street intersects with the northeastern portion of Backlick Road.

The McCutchen Road site entrance is located approximately 950-feet southeast from the intersection of Fairfax County Parkway and Backlick Road, approximately 550-feet southwest from Beulah Street, and approximately 1,800-feet north of Richmond Highway.

Traffic at the intersection of Richmond Highway and Fairfax County Parkway is described as approaching unstable flow, where vehicle speeds generally decrease as traffic volume slightly increases, and driver comfort decreases (U.S. Army, 2015). The traffic at the intersection of Backlick Road and Richmond Highway is described as having stable flow or near free-flow, where vehicle speeds are maintained at posted speeds, vehicles have slightly restricted movement between lanes, and drivers are comfortable with conditions (U.S. Army, 2015).

Although a traffic analysis was not identified as being required for this Proposed Action, a traffic management plan would be required as part of the subsequent construction design submissions

(Fort Belvoir, 2017a). This plan would ensure that construction and operation of the Proposed Action would not disrupt existing traffic patterns and flows on nearby roadways.

Parking

The northern paved parking lot at the McCutchen Road site includes approximately 40 parking spaces for staff vehicles. The area in the central and southern portion of the site is gravel-covered and is used for staff vehicles and equipment staging.

3.5.2 Environmental Consequences

3.5.2.1 Threshold of Significance

An alternative could have a significant effect on transportation and parking if it would increase the volume of traffic beyond the existing roadway capacity, cause parking availability to fall below minimum local standards, or require new or substantially improved roadways or traffic control systems.

3.5.2.2 Impacts of the Proposed Action.

Construction. Prior to construction, the current 911th Engineer Company operations at the McCutchen Road site would be temporarily relocated to a swing site elsewhere at Fort Belvoir; the specific location is currently under review by Fort Belvoir. Once the McCutchen Road site is cleared of equipment and vehicles, it would allow construction-related equipment, materials, and workers' vehicles to be staged and parked within the site, which has sufficient space to house the anticipated construction-related equipment and vehicles.

Although the McCutchen Road site is on the North Post, access to the site does not require passage through one of three North Post gates. Thus, construction vehicles traveling to and from the McCutchen Road site would not require passage through one of the gates and would not disrupt traffic conditions elsewhere on the North Post.

Based on information provided by the 911th Engineer Company, it is anticipated that construction vehicles would access the McCutchen Road site from the intersection of Backlick Road and Fairfax County Parkway, thereby avoiding travel on the eastern portion of Backlick Road that passes through the residential neighborhood to the east of the site. Neither Backlick Road, Fairfax County Parkway, nor Richmond Highway would require closing, special permits, or physical modifications to handle the volume or type of construction vehicles associated with constructing the proposed 911th EC Complex.

The presence of construction vehicles would be a temporary change from the current type and number of vehicles (staff vehicles) traveling on Backlick Road. However, fewer construction-related vehicles are anticipated to travel daily to and from the site during the construction period than the current number of staff vehicles (approximately 40) on Backlick Road. Heavy equipment would be staged at the site during a given construction phase, such that it would not be mobilized daily to and from the site. Additionally, fewer than 30 construction workers' vehicles would be anticipated to travel to and from the site each day.

A gravel-over-filter cloth construction pad would be established at the exit of the construction site to ensure dirt and debris would be removed from construction vehicle tires before those vehicles travel on Backlick Road. This would help to ensure construction activities do not cause the local community to have nuisance concerns regarding the appearance of local road conditions.

Therefore, construction of the 911th EC Complex would have short-term, direct, negligible adverse impacts to transportation, and no impact to parking.

Operation. During operation of the Proposed Action, approximately 100 staff vehicles would travel daily to and from the site. During emergency responses, traffic would also include trailered heavy equipment. Based on information from the 911th Engineer Company, these vehicles are anticipated to travel to and from the site using the western portion of Backlick Road, which intersects with Fairfax County Highway, rather than using the eastern portion of Backlick Road that passes through the residential area to the east of the site until intersecting with Richmond Highway. None of these roads would require modification to handle the anticipated operational traffic. Additionally, the type of operational traffic associated with the Proposed Action would not be substantively different from current operational conditions, although the number of staff vehicles traveling daily on the western portion Backlick Road would increase by approximately 60 vehicles, from the current 40 vehicles, to approximately 100 vehicles during operation.

The design for the proposed 911th EC Complex provides sufficient parking for all operational vehicles and equipment. Therefore, there would be no impact on parking conditions within or outside of the 911th EC Complex.

Therefore, operation of the Proposed Action would have a long-term, direct, negligible adverse impact on transportation, and no impact on parking.

3.5.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, there would be no changes made to current or future transportation or parking conditions at or in the vicinity of the McCutchen Road site. Therefore, under the No Action alternative there would be no impacts to transportation and parking.

3.6 Water Resources

This section addresses surface water, water quality, wetlands, resource protection areas (RPA), and groundwater. The "study area" for this section consisted of the area that was the focus of a Waters of the United States delineation performed by Fort Belvoir in November 2017, as shown on Figure 7. This study area included and extended slightly beyond the footprint of the approximately 10-acre McCutchen Road site where the 911th EC Complex would be located under the Proposed Action.

3.6.1 Affected Environment

Surface Waters

Surface waters at Fort Belvoir drain to the Potomac River or adjacent bays (Gunston Cove, Accotink Bay, Pohick Bay), either directly or through one of the three tributaries that run through the installation: Accotink Creek, Pohick Creek, and Dogue Creek. Thus, Main Post is divided into seven watersheds, with the Accotink Creek watershed being the largest, draining 48 percent of the Post. Accotink Creek also drains a large part of Fairfax County: of its 33,156-acre watershed, only 4,040 acres (or 14 percent) are on Fort Belvoir.

The study area is located within the Accotink Creek Watershed. Accotink Creek runs about one-third of a mile west and south of the study area, from which it is separated by Fairfax County Parkway to the

west and Richmond Highway to the south. Within the Accotink Creek Watershed, the study area is located within the Mason Run subwatershed. At approximately 650 acres, this is the third largest subwatershed on Fort Belvoir. Mason Run, a perennial tributary of Accotink Creek, runs along the eastern boundary of the study area. Mason Run flows into Accotink Creek south of Richmond Highway, a short distance from the creek's mouth into Accotink Bay.

During the November 2017 Waters of the United States delineation, an ephemeral stream channel—approximately 300 linear feet in length—was identified in the southwest corner of the study area. This likely is a stormwater drainage channel and it appears to be draining into the wetland area to the south of the study area. There are no other surface water features on or next to the McCutchen Road site.

Water Quality

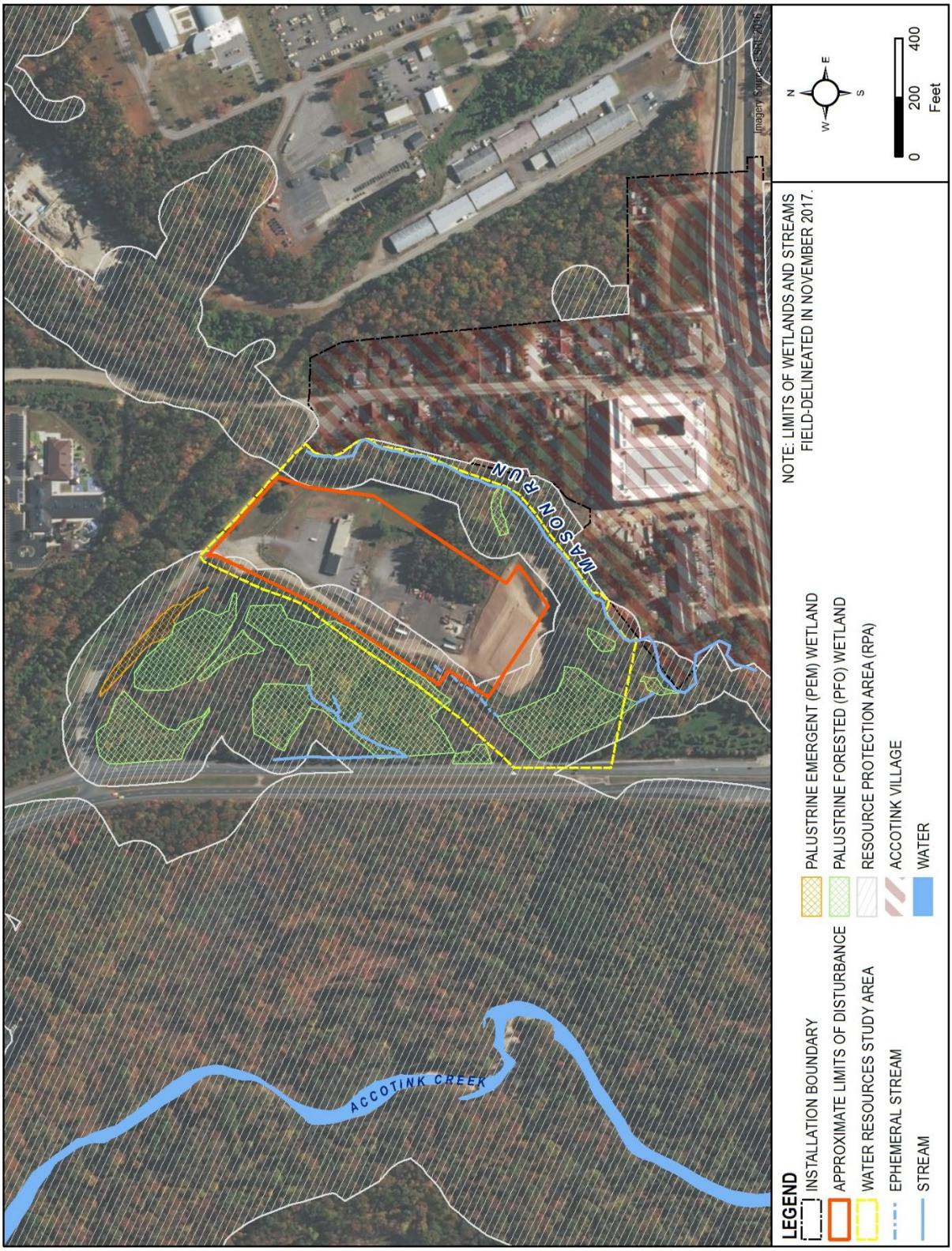
Water quality impacts in the waterways on Fort Belvoir relate mostly to urbanization, including issues related to bacteria, changes in stream morphology from increased impervious surface, and sedimentation. Development that increases the imperviousness of watersheds generates more stormwater runoff, leading in turn to erosion of stream channels and to transport of sediment, other particulates, and dissolved nutrients to downstream surface waters. Erosion of stream channels can severely damage the channel and those features of the channel that provide habitat for fish, amphibians, aquatic insects, and other invertebrates. An excess of sediment and particulates could also degrade water quality downstream. For example, Chesapeake Bay has degraded primarily in response to excess nutrient pollution.

Section 303(d) of the CWA and the USEPA's Water Quality Planning and Management Regulations (40 CFR Part 30) direct states to identify and list water bodies in which current controls of a specified pollutant are inadequate to achieve water quality standards. Additionally, states are required to develop Total Maximum Daily Loads (TMDL) for water bodies that are not meeting water quality standards. TMDLs represent the total pollutant loading that a water body can receive without exceeding water quality standards.

For the Commonwealth of Virginia, impaired waters are outlined in the biennial Virginia Water Quality Assessment 305(b)/303(d) Integrated Report. Based on a review of the D*raft 2016 305(b)/303(d) Water Quality Assessment Integrated Report*, dated August 7, 2017 (VDEQ, 2017), Fort Belvoir discharges into several impaired receiving surface waters, one of which is Accotink Creek. According to the 2016 Integrated Report, Accotink Creek is categorized as a Category 5 impaired water (i.e., needing a TMDL for benthic-macroinvertebrate bioassessments, chloride, and PCBs in fish tissue). It is listed as a Category 4A (i.e. with approved TMDL) impaired water for *Escherichia coli* (*E. coli*) bacteria. TMDLs for chlorine and sediments are under development.

Fort Belvoir's Main Post, excluding areas covered under the Virginia Pollution Discharge Elimination System (VPDES) Major Industrial Stormwater Permit (VPDES Permit VA0092771), is covered under a General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4), MS4 Permit VAR040093. The McCutchen Road site is not currently covered by Permit VA0092771. However, among the existing 911th Engineer Company facilities, building 1950 (at Goethals Road) is currently covered by the permit at Industrial Outfall 011. Required changes to this permit as part of the implementation of the Proposed Action are discussed in Section 3.6.2.2.

Figure 7. Water Resources within and Surrounding the McCutchen Road Site



Wetlands

Based on the aforementioned Waters of the United States delineation conducted in November 2017, several potentially jurisdictional features, including a total of approximately 2 acres of non-tidal wetlands, were identified within the study area. All wetlands within the study area were identified as palustrine forested wetlands and are located at the periphery of the study area (see Figure 4 and Figure 7). The wetland along the western boundary of the study area drains to the west and enters a culvert that crosses under Fairfax County Parkway to Accotink Creek. The other wetlands drain directly to Mason Run.

Floodplains

As shown in Federal Emergency Management Agency (FEMA) maps (Flood Insurance Rate Map 51059C0385E, effective September 17, 2010), the McCutchen Road site is located outside the 100-year floodplains and is within the area of minimal flood hazard ("Zone X"). The locations of the mapped floodplains in relationship to the McCutchen Road site are illustrated on Figure 8. It is noted that Fort Belvoir, as a federal agency, adheres to floodplain designations issued by FEMA.

Resource Protection Areas

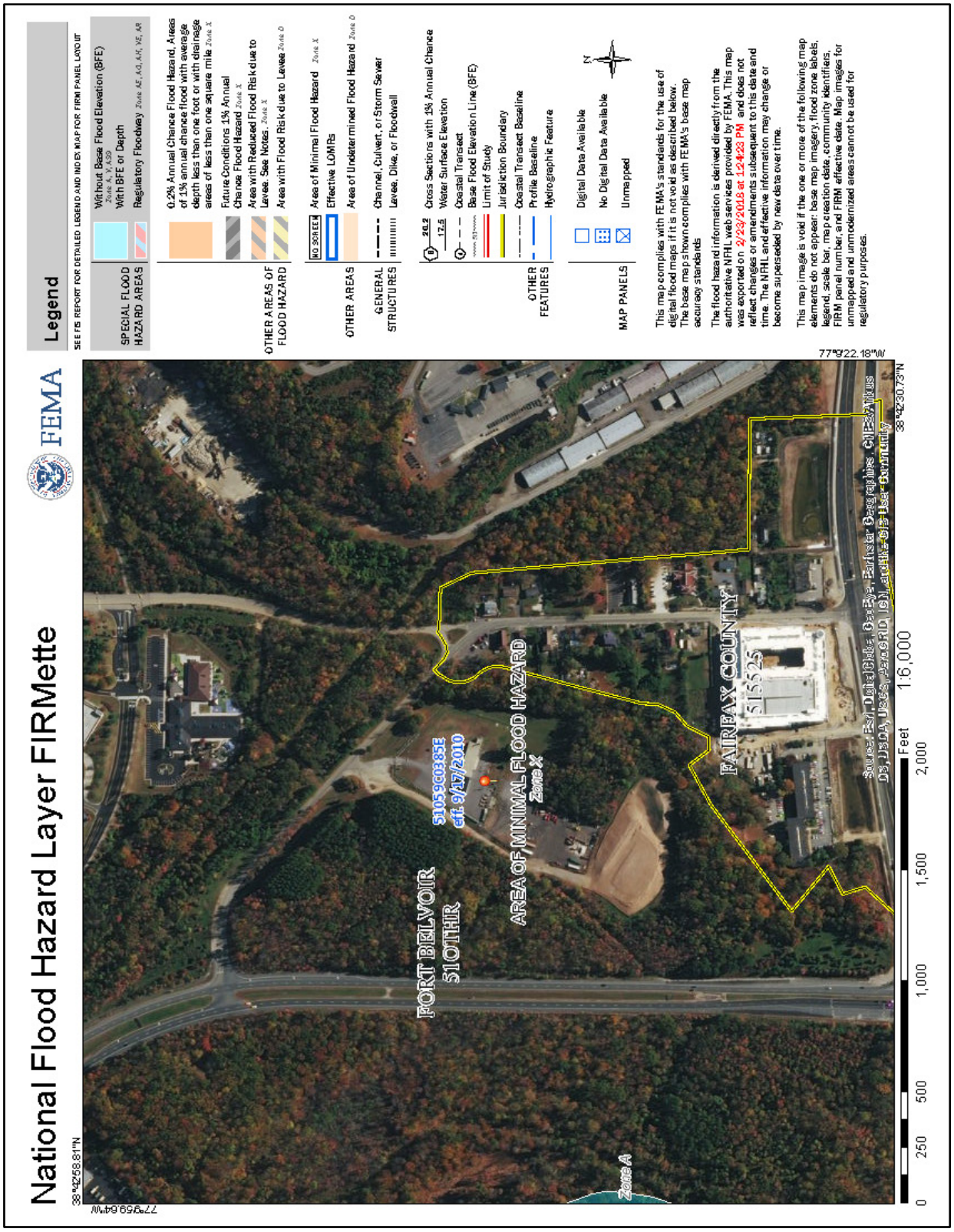
Virginia's *Chesapeake Bay Preservation Act* (CBPA), Virginia Code 10.1-2100 et seq., and its implementing Chesapeake Bay Preservation Area Designation and Management Regulations, 9 Virginia Administrative Code (VAC) 10-20-120 et seq., protect certain lands, designated as Chesapeake Bay Preservation Areas, which, if improperly developed, could result in substantial damage to the water quality of the Chesapeake Bay and its tributaries. Projects that occur on lands that are protected under the CBPA must be consistent with the Act and may be subject to the performance criteria for RPAs as specified in §9 VAC 10-20-130. Under the CBPA, Fairfax County adopted a Chesapeake Bay Preservation Ordinance that designates RPAs and Resource Management Areas (RMA) within the county.

The purpose of the RPA is to maintain or restore a vegetated buffer between development and tributaries to the Chesapeake Bay, with the assumption that such a buffer traps nutrients and pollutants in runoff and groundwater before reaching the bay. RPAs include tidal wetlands; tidal shores; nontidal wetlands connected by surface flow and contiguous to tidal wetlands or waterbodies with perennial flow, and a minimum 100-foot buffer landward of the other RPA components.

Development within RPAs is generally restricted to water-dependent uses, maintenance of public facilities, passive recreation, water wells, and historic preservation. However, redevelopment in an already developed RPA is allowed.

Within the study area, RPAs are associated with wetlands to the east, southwest, and west, which are connected to either Accotink Creek or Mason Run (Figure 7). Because of its ephemeral character, the stream in the southwest corner of the study area does not have an RPA buffer associated with it. Although Fort Belvoir adheres to FEMA floodplain designations, it is noted that Fairfax County identifies the RPA boundary as a major floodplain because Mason Run drains 360 acres or more of land.

Figure 8. Floodplain Map



Groundwater

Fort Belvoir is underlain by three main aquifers: lower Potomac aquifer, middle Potomac aquifer, and Bacons Castle Formation. The lower Potomac aquifer is the primary aquifer on the installation and in eastern Fairfax County. This aquifer exists between a layer of crystalline bedrock and a thick wedge of clay that contains interbedded layers of sand. Water in the lower Potomac aquifer flows to the southeast and is recharged in the western section of Fort Belvoir and to the north and west of the installation. Depth to the water table on the installation fluctuates based on precipitation, leakage, and evapotranspiration, but is typically 10- to 35-feet below ground surface. However, the water table may be at or near the surface near streams in the form of shallow, unconfined aquifers or perched water tables.

Coastal Zone Management

The *Coastal Zone Management Act* of 1972 (16 USC §1451 et seq., as amended) provides assistance to the states, in cooperation with federal and local agencies, for developing land and water use programs in coastal zones. Section 307 (c)(1) of the Coastal Zone Management Act Reauthorization Amendment stipulates that federal projects that affect land uses, water uses, or coastal resources of a state's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of that state's federally approved coastal management plan. The Commonwealth of Virginia has developed and implemented a federally approved Coastal Resources Management Program describing current coastal legislation and enforceable policies. There are enforceable policies for:

- Fisheries management
- Subaqueous lands management
- Wetlands management
- Dune management
- Non-point source pollution control
- Point source pollution control
- Shoreline Sanitation
- Air Pollution Control
- Coastal Lands Management

Virginia's coastal zone includes all of Fairfax County, including Fort Belvoir; therefore, federal actions at Fort Belvoir are subject to federal consistency requirements. The VDEQ serves as the lead agency for consistency reviews.

3.6.2 Environmental Consequences

3.6.2.1 Threshold of Significance

The threshold of significance for water resources would be exceeded if the alternative would result in a major physical alteration of local surface waters, a substantial degradation of water quality in violation of permitting requirements and TMDL measures, a substantial loss of wetlands or RPA that cannot be fully mitigated, or a substantial and permanent loss or degradation of groundwater.

Impacts on wetlands, floodplains, and coastal zone management are evaluated separately in the following sections. The threshold of significance would be exceeded if the alternative would result

in substantial degradation of wetlands without mitigation, notable adverse impacts on natural and beneficial floodplain values, or inconsistencies with Virginia's Coastal Resources Management Policies (CRMPs).

3.6.2.2 Impacts of the Proposed Action.

Surface Waters

Construction. As noted above, the only perennial body of surface water near the McCutchen Road site is Mason Run. The Proposed Action does not involve any construction in or immediately adjacent to Mason Run that could result in a physical impact to the stream. However, part of the ephemeral stream in the southwest corner of the McCutchen Road site may be directly affected by the construction of the proposed complex and its perimeter fence. The TEMF concrete hardstand would impact the first 75 feet of where a vegetated depression begins to form a channel. Because this is a potentially jurisdictional feature, filling it would require permitting under Sections 404/401 of the CWA. To the maximum extent feasible, the proposed 911th EC Complex would be designed to minimize physical impacts to this channel including constructing the proposed training area to the east so that it will avoid the remaining 125 feet of the more defined channel. This site layout would accommodate the safe operation of equipment while minimizing impacts to all of the surrounding natural resources. Accordingly, to address unavoidable impacts, a joint permit application would be filed and a permit obtained to comply with Sections 404/401 of the CWA. As part of the application, Fort Belvoir would request review by the Office of Wetlands and Stream Protection within the VDEQ Division of Water Permitting, in order to obtain a Virginia Water Protection (VWP) permit due to potential impacts to the vegetated ephemeral stream channel. The VWP permit also serves as §401 certification of the CWA §404 permits for dredge and fill activities in waters of the U.S. Because less than 300-linear feet of the ephemeral stream channel would be affected, no need for specific mitigation measures is anticipated. Compliance with the terms of all permits would ensure that the potential minor adverse impact remains at a less-than-significant level.

Operation. Operation of the proposed 911th EC Complex would not involve activities in surface waters and would have no potential to result in physical impacts to surface waters.

Water Quality

Construction. Construction of the proposed 911th EC Complex has the potential to affect water quality through increased soil erosion and sedimentation into nearby water bodies during ground-disturbing activities. Those potential impacts would be minimized through compliance with the terms of Fort Belvoir's MS4 Permit VAR040093. Under the terms of the permit, projects that disturb more than one acre of land are required to prepare and implement an Erosion and Sedimentation Control (ESC) plan as well as a stormwater management (SWM) plan to be reviewed and approved by Fort Belvoir's Department of Public Works (DPW) and by VDEQ.

The ESC and SWM plans would specify measures that would be put in place to avoid or minimize erosion and sedimentation. Such measures may include, but are not limited to, silt fencing, use of synthetic hay bales, temporary sediment traps, and other similar measures. The Proposed Action would be coordinated and approved through the Fort Belvoir stormwater permit manager and

routine inspections would be conducted throughout construction to ensure compliance. Therefore, construction of the proposed 911th EC Complex is not anticipated to result in significant adverse impacts on water quality from increased erosion and sedimentation.

Operation. In the long term, operation of the proposed 911th EC Complex could result in impacts on water quality from increased contaminated or polluted stormwater discharge. The Proposed Action would increase the amount of impervious surface on the site, which could result in a corresponding increase in the volume of stormwater runoff. However, as a project with a footprint larger than 5,000 square feet, the Proposed Action would be required to comply with Section 438 of the *Energy Independence and Security Act* (EISA). Section 438 requires "the sponsor of any development or redevelopment project involving a federal facility with a footprint that exceeds 5,000 square feet to use site planning design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow." Compliance with Section 438 through the incorporation of low-impact development (LID) measures in the design of the proposed complex would ensure that the Proposed Action does not result in an increase in the volume of stormwater runoff. Examples of potential LID measures include installing vegetated swales between parking lots instead of curb and gutter or establishing one or more rain gardens.

In the longer term, measures to avoid and minimize potential contamination of stormwater at the site would be included in the proposed 911th EC Complex's design, as applicable, including, but not limited to, oil/water separators for drains that could be exposed to petroleum products and sufficient secondary containment (110% of the volume of the stored product) for all chemical and hazardous materials. Once the facility design has been finalized, the subsequent operational activities would be covered either under an Industrial Stormwater Major Permit or an MS4 permit. If wash racks and/or wash islands are located outside, then they would be designed such that the wash water drains only into floor drains that are connected to oil/water separators (OWS) that then drain to the sanitary sewer. No wash water would be discharged to the stream. Wash Islands would follow the same design as the wash racks. Furthermore, the facility would be covered under the Industrial Stormwater Major Permit VA0092771, a new Industrial Stormwater Representative Outfall and associated drainage area would be permitted, the facility would receive a facility-specific Storm Water Pollution Prevention Plan (SWPPP) prepared by Fort Belvoir that the 911th Engineer Company would implement and maintain. Alternatively, if the final design calls for all washing activities to be conducted under cover with drainage through the OWS to the sanitary sewer, such that the activities would not be exposed to or come into contact with stormwater, then the washing activities would be covered under Fort Belvoir's MS4 permit. Parking for maintained vehicles does not require Industrial Stormwater permit coverage. Additionally, to limit the amount of potential run-off generated, the use of vehicle wash stations would be restricted to only 911th Engineer Company tactical emergency vehicles; therefore, the amount of runoff would be limited. Further, any discharge of non-contact cooling waters from HVAC systems and chillers would drain to the sanitary sewer; no discharge to surface waters would occur.

Winter snow and ice management materials such as salt and sand would be managed according to Fort Belvoir's Master SWPPP BMP Fact Sheet for Salt Storage (No. 73), and salt application dates

and quantities would be reported to the Fort Belvoir DPW. Fort Belvoir policy prohibits the use application of snow/ice management products that contain urea or ethylene glycol.

If operation of the 911th EC Complex involves outside maintenance activities or outside storage potentially exposed to rain events, the activities would be covered under VPDES Permit VA0092771 and meet the applicable permit requirements. As noted above, current 911th EC operations at 6151 Goethals Road are covered by the permit for Industrial Outfall 011; relocation of the permitted activities to the McCutchen Road site would require a notice of planned change and a new representative outfall may need to be added to the permit. Sampling requirements would likely include flow, pH, total suspended solids, total petroleum hydrocarbons, total nitrogen, nitrate and nitrite, and total phosphorus. Operation activities would also likely include chloride sampling, because the site drains to Accotink Creek and would be subject to compliance with the upcoming chloride TMDL for this stream, in addition to the sediment TMDL. Compliance with applicable permitting requirements would ensure that the Proposed Action results in no significant adverse impact on water quality.

Wetlands

Construction and Operation. Construction of the 911th EC Complex would not directly affect wetlands. None of the wetlands delineated in November 2017 are within the footprint of the proposed 911th EC Complex. However, because some of those wetlands are close to the project boundary, there is a potential risk that they could be adversely affected if they were used as staging areas, to park equipment, to store or stockpile materials, or within construction vehicle ingress/egress routes. To avoid this potential minor impact, the construction contractor and operational staff would be prohibited from encroaching upon the wetland areas for any reason. If and as needed, flags or barriers would be put in place to clearly mark out the wetland areas to be avoided.

The Proposed Action could also potentially result in indirect impacts on the wetlands near the site because of increased erosion during construction activities. However, the measures that would be implemented as part of the previously mentioned ESC and SWM plans to avoid or minimize adverse impacts on surface waters would also avoid or minimize impacts on wetlands. Similarly, LID measures and compliance with permit requirements as addressed above would minimize the risk of indirect impacts to wetlands from contaminated or polluted runoff. Therefore, the Proposed Action would have no significant adverse impacts on wetlands.

Floodplains

The Proposed Action site is not located in a floodplain and has no potential to affect flood levels or floodways at or in vicinity of the site.

Resource Protection Areas

Construction. The design of the proposed 911th EC Complex has been developed to avoid impacts to RPAs to the maximum extent feasible. Construction of the proposed 911th EC Complex would disturb small areas along the outer edges of the RPAs associated with the non-tidal wetlands to the west and south of the project site. Altogether, approximately 1.6 acres of RPA would be affected. Much of the affected RPA is already disturbed and is not vegetated. Construction in already

developed portions of the RPA is allowed and is not considered an adverse impact. However, approximately 0.4 acres of the affected RPA is currently vegetated. The clearing of this portion of the RPA to construct the proposed 911th EC Complex would adversely impact the RPA.

To mitigate this adverse impact, vegetation removed from the RPA would be replaced consistent with the Virginia Department of Conservation and Recreation's *Riparian Buffers Modification and Mitigation Guidance Manual* and applicable Fort Belvoir Draft Guidance. Mitigation would consist of replacement plantings within the RPA as follows: all removed trees would be replaced with new trees ranging from 1.5-inch to 2.5-inch DBH; replacement would be on a 2 to 1 ratio for trees that are 4-inches and greater in DBH and at a 1 to 1 ratio for trees that are less than 4-inches DBH. Large shrubs (3- to 4-feet high) would be replaced at a 1 to 1 ratio with shrubs of the same size. If this method is not feasible, an alternative replacement strategy replacing all trees and shrubs with a set number of large or small shrubs on a ratio defined in the Draft Guidance would be implemented instead. Replacement plantings would be conducted in RPAs just to the east and south of the project site.

Based on these measures and the small amount of vegetated RPA that would be cleared, the Proposed Action would have minor, non-significant adverse impacts on the RPA.

Operation. Operation of the Proposed Action would have no means to impact the RPA; all 911th Engineer Company operations would occur outside of the RPA. Therefore, operation would have no adverse impact on RPAs.

Groundwater

Construction and Operation. The Proposed Action may have a negligible adverse impact on the overall availability or quality of groundwater. The increase in impervious surfaces on the site would reduce infiltration of stormwater to groundwater resources. However, LID measures, as mentioned previously, would help minimize this impact. The proposed 911th EC Complex is not near any recharge areas for the Lower Potomac Formation, so impacts would be minor and restricted to the surface water table. No withdrawal of groundwater would be necessary to construct or operate the proposed 911th EC Complex. Therefore, the Proposed Action would have short-term, direct, negligible adverse impacts on groundwater.

Coastal Zone Management

Fort Belvoir has determined that the Proposed Action would be consistent, to the maximum extent practicable, with the Commonwealth of Virginia Coastal Zone Management (CZM) Program enforceable polices, as described in the Federal Consistency Determination (FCD) included in Appendix C in the EA. The EA and FCD was reviewed by the VDEQ in January 2019; on February 15, 2019, VDEQ issued a letter of concurrence, provided all applicable permits and approvals are obtained, and gives consideration to Virginia's CZM Program advisory policies. In accordance with Title 15, Code of Federal Regulations (CFR), §930.2, VDEQ invited the public to participate in the review of the FCD for the Proposed Action. Public notice of this Proposed Action was published in OEIR's Program Newsletter and on the DEQ website from January 24, 2019 through February 15, 2019. No public comments were received in response to the notice. A copy of the WDEQ correspondence is provided in Appendix A.

Therefore, construction and operation of the Proposed Action would have no adverse impacts to Coastal Zone Management.

3.6.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, the 911th EC Complex would not be constructed. This would have no impact on water resources.

3.7 Land Use

3.7.1 Affected Environment

Fort Belvoir is approximately 8,500 acres in size; approximately 65 percent of this area is undeveloped, much of it due to environmental constraints. Fort Belvoir is divided into five areas: North Post, South Post, the Southwest Area, the Davison Army Airfield (DAAF), and the FBNA. The North and South Posts are separated by Richmond Highway, which bisects the Post and is a major transportation corridor in this part of Virginia. The North and South Posts contain most of the development at Fort Belvoir.

Figure 9 shows Fairfax County's land use categories and includes the land use categories for Fort Belvoir. The McCutchen Road site is owned by the Army and is designated for Professional/Institutional land use.

3.7.2 Environmental Consequences

3.7.2.1 Threshold of Significance

Impacts on land use can occur when the implementation of a project creates an inconsistency between the actual use of the land and the underlying land use designation, or when a project is incompatible with adjacent or surrounding land uses (i.e., siting an industrial facility in a residential area). Land use impacts may also occur when the implementation of a project conflicts with or prevents the implementation of the goals, objectives, and policies of relevant planning documents, studies, and/or nearby, unrelated development projects.

3.7.2.2 Impacts of the Proposed Action.

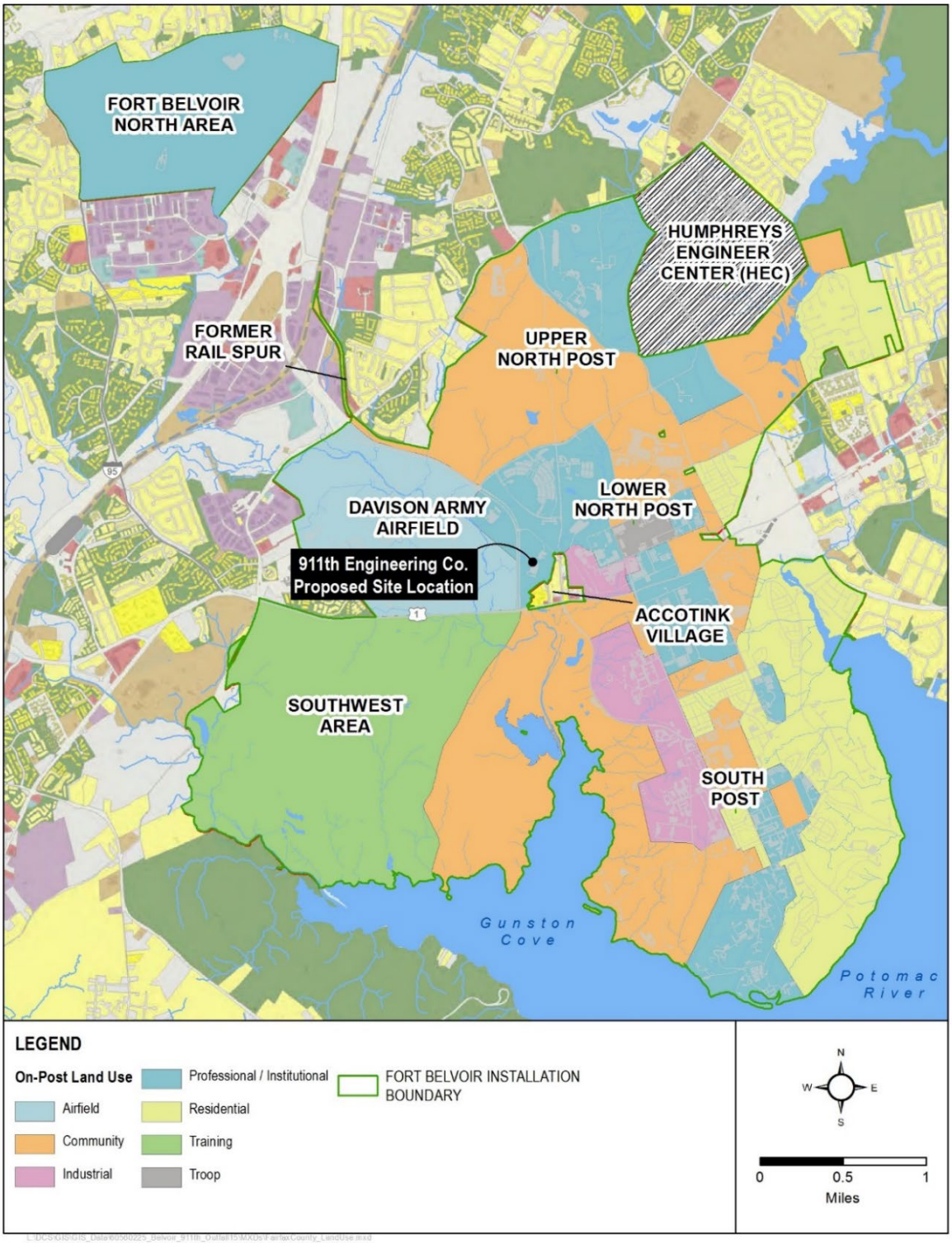
Construction and Operation. Construction and operation of the Proposed Action would have no impact on land use at or in the vicinity of the McCutchen Road site or in the vicinity of the North Post of Fort Belvoir, or require or lead to future changes in land use. The Proposed Action would enable the Army to continue to use the McCutchen Road site for professional/institutional use as the location for the proposed 911th EC Complex.

Therefore, the Proposed Action would have no long-term or short-term, direct or indirect, significant, beneficial or adverse impact on land use.

3.7.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, the current land use designation at and ownership of the McCutchen Road site would continue to remain unchanged for the foreseeable future. Therefore, the No Action alternative would have no impact on land use.

Figure 9. Fairfax County Land Use Designations



3.8 Geology, Topography, Soils

3.8.1 Affected Environment

Geology

Fort Belvoir's Main Post lies below the fall line within the high and low Coastal Plain Terrace sub-sections of the Coastal Plain, which consists of unconsolidated sand, silt, and clay underlain by residual soil and weathered crystalline rocks. There are several geologic formations associated with the Coastal Plain, including the Potomac Formation, Bacons Castle Formation, Shirley Formation, and Alluvium and Pliocene sand and gravel (Hobson, 1996). Most of the Coastal Plain deposits in the Fort Belvoir area consist of a sequence of unconsolidated sediments that belong to the Potomac Group (Hobson, 1996). The Potomac Formation outcrops along the slopes leading down to the Potomac River shoreline on the Main Post. The Potomac Group is characterized by lens-shaped deposits of interbedded sand, silt, clay, and gravel, primarily of non-marine origin. The Potomac Group is approximately 600 feet thick beneath most of Main Post (U.S. Army, 2001).

Fort Belvoir's uplands are underlain by sands, silts, and clays of riverine origin. Uplands underlain by sands and silts tend to be more stable than those underlain by clays. Uplands that are underlain by clayey soils form undulating and rolling hills where the dominant land-forming process is mass wasting, which includes downhill creep, landslides, slumping, and rockfalls. Fort Belvoir's lowlands and valley bottoms are underlain with sediments deposited by moving water (U.S. Army, 2001). The dominant land-forming process in these lower areas is active riverine erosion and deposition during overbank flooding. Surface drainage is often poor due to the shallow water table. Drainage usually occurs as surface runoff, with runoff greatest on the steeper slopes. The extent of runoff increases with construction activity and the removal of vegetation, which in turn increases the rate of erosion and the probability of creep and slumping.

Topography

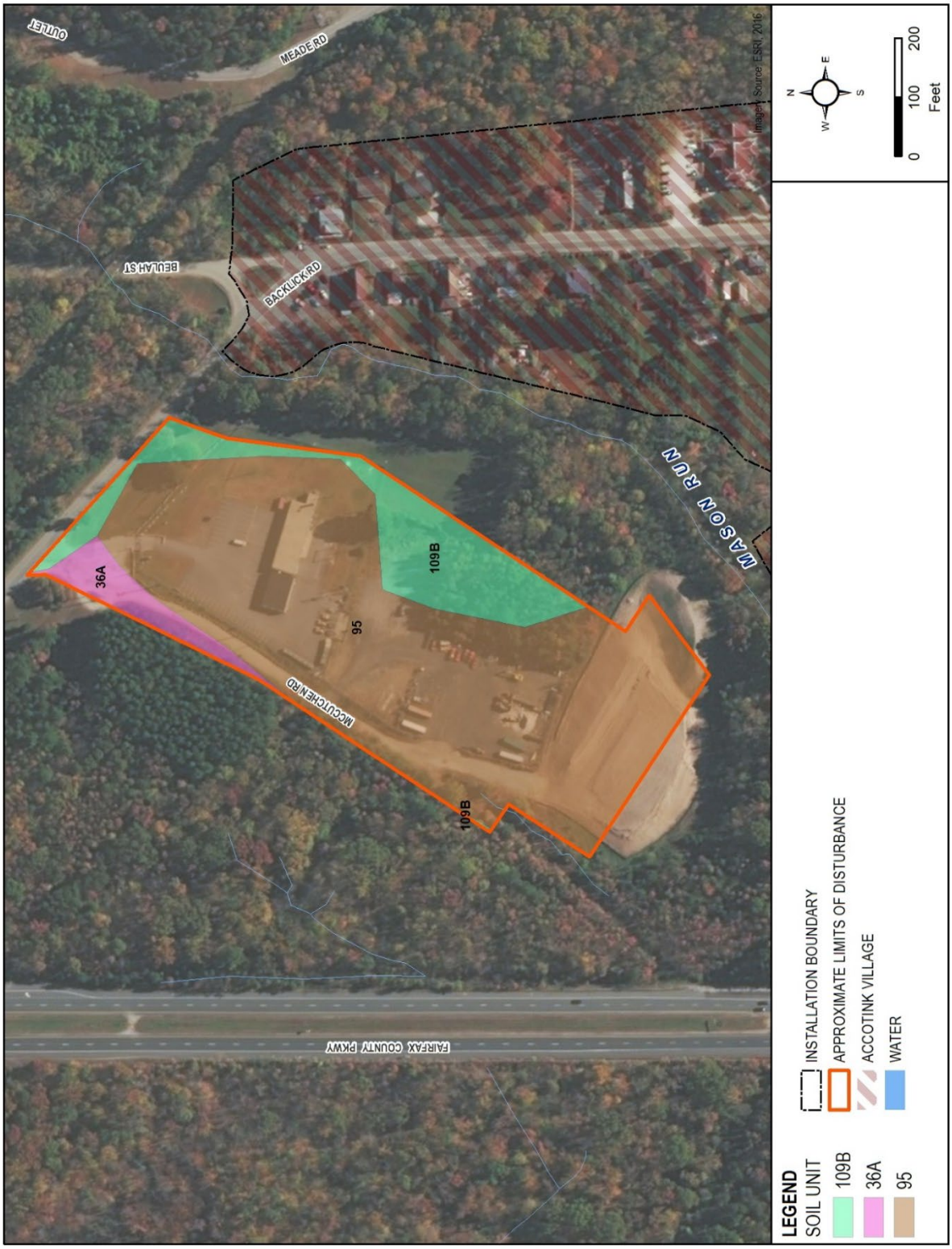
The topography of Fort Belvoir's Main Post is characterized by uplands and plateaus, lowlands, and steeply sloped terrain. The land ranges in elevation from approximately sea level along the Potomac River to approximately 230 feet above mean sea level (amsl) near the intersection of Beulah Street and Woodlawn Road in the upland area of the installation (U.S. Army, 1989).

The topography of the McCutchen Road site is generally flat. Based on the United States Geological Survey (USGS) Fort Belvoir topographical map (USGS ID 38077F2), the elevation at the site ranges from a high of approximately 50 feet amsl in the northwest portion of the site, gradually slopes downward to approximately 40 feet amsl by the southern boundary, and gradually slopes from the center of the site to the southeast and southwest to approximately 35 feet amsl (USGS, 2016).

Soils

Soil information was obtained from the United States Department of Agriculture–Natural Resources Conservation Service (USDA-NRCS, 2018) (Figure 10). A description of the soils within this area is presented in Tables 6 and 7. The majority of the soil at the site is classified as Urban Land.

Figure 10. McCutchen Road Site Soil Map



The Fairfax County Soils Guide defines Urban Land as "any large area completely covered by impervious surfaces such as asphalt, concrete or rooftop" (USDA-NRCS, 2013). Urban land is not prime farmland.

Other primary soils in the area include "Woodstown sandy loam," which is considered prime farmland. Prime farmland is of major importance in meeting the nation's short-range and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the USDA recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our nation's prime farmland.

While the farmland designations are based strictly on soil characteristics and do not depend on a history of current or past agricultural use, the applicability of protection of these lands under the *Farmland Protection Policy Act* is contingent on the adjacent land uses and history of production. For example, lands already in urban use or otherwise irreversibly committed to nonagricultural uses do not typically qualify. Former farmlands within Fort Belvoir were committed to military use long before passage of the *Farmland Protection Policy Act*; these lands have not been in production for over 50 years and longstanding land uses within the facility are not consistent with prime farmland or farmland of statewide importance designations. Thus, the procedural requirements of the *Farmland Protection Policy Act* requiring coordination with the USDA-NRCS do not apply for the Proposed Action.

Table 6. Soil Descriptions

Map Unit Symbol	Map Unit Name	Acres in Area	Percent of Area
36A	Elkton silt loam, 0 to 2 percent slopes, occasionally ponded	0.4	4.2%
95	Urban land	7.3	76.8%
109B	Woodstown sandy loam, 2 to 7 percent slopes	1.8	18.9%
Totals for Area of Interest		9.5	100.0%

Table 7. Prime and Other Important Farmlands

Map Symbol	Map Unit Name	Farmland Classification
36A	Elkton silt loam, 0 to 2 percent slopes, occasionally ponded	Not prime farmland
95	Urban Land	Not prime farmland
109B	Woodstown sandy loam, 2 to 7 percent slopes	All areas are prime farmland

3.8.2 Environmental Consequences

3.8.2.1 Threshold of Significance

Impacts on geology, topography, and soils are evaluated separately in the following section. The impacts on geology are analyzed based on potential changes caused by the Proposed Action to

bedrock, unique sensitive landforms, or rock foundations. The impacts on topography are analyzed based on potential changes to surface features, especially steep slopes. Impacts on soils are analyzed based on potential changes to soil type, erosion, and sedimentation due to implementation of the Proposed Action.

3.8.2.2 Impacts of the Proposed Action.

Geology

During both construction and operation of the Proposed Action, there would be no processes that would impact geology. There would be no exposure to bedrock during the construction or operation of the 911th EC Complex. Therefore, construction and operation of the Proposed Action would have no impacts to geology.

Topography

Construction. The 911th EC Complex would be designed largely in concert with the natural topography of the already developed site. The topography may be altered slightly to ensure stormwater drains to a suitable, site-specific, and properly engineered and designed stormwater management system. Therefore, construction of the Proposed Action would have no impact on topography.

Operation. There would be no changes to topography during the operation of the Proposed Action. Any changes made during construction would be maintained. Therefore, during operation, the Proposed Action would have no impact on topography.

Soils

Construction. The Proposed Action would affect more than 2,500 square feet of ground surface. Therefore, an ESC plan employing soil BMPs, and a Virginia Stormwater Management Program (VSMP) permit, would be required for the clearing and grading activities. The ESC plan would include strict measures consistent with the Virginia Erosion and Sediment Control Handbook to minimize ESC impacts. No additional mitigation would be needed.

Construction would remove vegetative cover, disturb the soil surface, and compact the soil at the majority (approximately 9.82 acres) of the approximately 10-acre site. The soil would then be susceptible to erosion by wind and surface runoff. Exposure of the soils during construction has the potential to result in increased sedimentation of stormwater management systems and for off-site discharges of sediment-laden runoff. To minimize potential erosion impacts during the construction phase, a SWPPP would be prepared in accordance with VDEQ VPDES regulations, 9 VAC 25-870-54 Stormwater Pollution Prevention Plan Requirements, and *the Virginia Stormwater Management Act*. The SWPPP would have similar requirements as the SWPPP for the Outfall 001 associated with the 911th Engineer Company operations at 6151 Goethals Road. Additionally, a site-specific ESC plan would be prepared prior to land disturbance in accordance with the Virginia Erosion and Sediment Control Regulations (9 VAC 25-840); the ESC plan would be submitted to Fort Belvoir Department of Public Works for review and to VDEQ Northern Regional Office for approval.

The use of typical stormwater BMPs would help minimize impacts to exposed soils during and following construction. These BMPs include revegetating soils as soon as possible, with native, non-invasive vegetation, surrounding exposed soils with silt fence and synthetic hay bales, designating specified loading and unloading areas, covering exposed soils during anticipated storm events, and minimizing construction vehicle traffic on exposed soils to the maximum extent practicable. Therefore, construction of the Proposed Action would have short-term, direct, minor adverse impacts on soil.

Operation. Operation of the Proposed Action would include professional scheduled landscaping to ensure soil exposed during construction remained vegetated and stabilized to prevent erosion. Negligible short-term soil erosion effects could occur as a result of increased on-site impervious surfaces. However, as previously described in Section 3.6.2, the Proposed Action would be required to comply with Section 438 of the EISA through the implementation of LID measures. Therefore, soil erosion would be minimized by ensuring that post-project hydrology is similar to pre-project hydrology. Therefore, operation of the Proposed Action would have a short-term, direct, negligible adverse impact on soil quality.

3.8.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, there would be no changes to the existing geology, topography, or soils within the McCutchen Road site. Therefore, there would be no short-term or long-term, direct or indirect, beneficial or adverse impacts to geology, topography, or soils.

3.9 Biological Resources

Biological resources include both plants and animals, including species protected under the *Endangered Species Act* (ESA), the *Migratory Bird Treaty Act* (MBTA), and the *Bald and Golden Eagle Protection Act* (BGEPA). The study area for this section consists of the approximately 10-acre McCutchen Road site, which was the subject of a tree survey and habitat evaluation performed in November 2017. The study area is shown on Figure 11. The habitat evaluation was performed to determine the suitability for the state-threatened wood turtle (*Glyptemys insculpta*), the federally-threatened and state-endangered small whorled pogonia (*Isotria medeoloides*), and the federally-threatened and state-threatened northern long-eared bat (*Myotis septentrionalis*).

3.9.1 Affected Environment

3.9.1.1 Vegetation

The majority of the McCutchen Road site is developed with buildings and pavements, disturbed grounds, or covered with grass. Forested areas are present within the central-eastern portion of the site and along the western, eastern, and southern site boundaries. The western and southern forested areas are part of larger forest stands that extend beyond the site. Small isolated clusters of trees are also present in the northeast portion of the site.

Based on the November 2017 tree surveys, forested areas at the site include mixed hardwood forest, mixed pine-hardwood forest, and pine plantation. The most common tree species observed were sweet-gum (*Liquidambar styraciflua*), Virginia pine (*Pinus virginiana*), loblolly pine (*Pinus taeda*), eastern red-cedar (*Juniperus virginiana*), red maple (*Acer rubrum*), and white oak (*Quercus alba*).

Figure 11. Biological Resources within the McCutchen Road Site

The mixed hardwood forest areas have a moderately dense shrub/sapling layer and a dense herbaceous layer with low species diversity. The mixed hardwood forest is approximately 30 years old. Representative tree species include Virginia pine, eastern red-cedar, and black locust (*Robinia pseudoacacia*). The mixed pine-hardwood forests are approximately 30 years old with a dense shrub/sapling layer. The pine plantation comprises loblolly pine and Virginia pine, and contains a sparse understory.

The tree survey identified approximately 950 trees that were 4 inches and greater in DBH within the McCutchen Road site. Fort Belvoir's Tree Removal and Protection Policy provides for a 2:1 ratio replacement of lost trees that are ≥4-inches DBH, and 1:1 ratio for trees <4-inches DBH and shrubs ≥3-feet high, on-post (or alternatively for an "out-of-kind" mitigation action, such as stream restoration or Partners-In-Flight habitat enhancement).

3.9.1.2 Wildlife and Wildlife Habitat

Common Species

Given the mostly disturbed and developed character of the McCutchen Road site, the bird and mammal species likely to be encountered are those common to suburban and/or disturbed environments. Examples include the gray squirrel (*Sciurus carolinensis*), white-tailed deer (*Odocoileus virginianus*), or short-tailed shrew (*Blarina brevicauda*).

Protected Species

Two ESA-listed species have the potential to be present on Fort Belvoir and might be present within the McCutchen Road site: (1) the small whorled pogonia (threatened), and (2) the northern long-eared bat (threatened). A habitat evaluation to determine the suitability of the site for small whorled pogonia was conducted on November 20, 2017. No areas of suitable or marginal habitat for small whorled pogonia were found at the McCutchen Road site. A habitat evaluation to determine the suitability of the McCutchen Road site for the northern long-eared bat was also conducted on November 20, 2017. No hibernacula were observed. However, the mixed hardwood forests and mixed pine-hardwood forests could provide summer habitat in the form of roost sites and foraging areas. The pine plantation areas at the site are considered to be low-quality summer habitat, and unlikely to support northern long-eared bat. The developed and maintained areas of the site are generally unsuitable for northern long-eared bat.

Fort Belvoir is located within the historical range of the federally-endangered rusty patched bumble bee (*Bombus affinis*). Although rusty patched bumble bees have not been observed or collected in Fairfax County since the 1970s, surveys and voluntary conservation measures are strongly encouraged by USFWS for projects in Fairfax County. The rusty patched bumble bee requires nesting habitat (typically abandoned rodent nests or other similar cavities), floral resources to gather pollen and nectar (typically within 0.6 mile of nests), and overwintering habitat (loose soil and/or leaf litter in or near woodlands and woodland edges that contain spring blooming herbaceous plants, shrubs, and trees).

Fort Belvoir provides roosting, foraging, and nesting habitat for bald eagles, protected under the BGEPA. Eagle nests have been documented along the Dogue Creek, the Potomac River, and

Pohick Bay shorelines. The McCutchen Road site contains no documented nesting sites, nor does it provide any significant amount of foraging or roosting habitat for the eagle.

The forest stands within the McCutchen Road site likely provide perching, nesting, and foraging habitat for numerous bird species protected under the MBTA. One such species known to occur seasonally on Fort Belvoir is the state-threatened peregrine falcon (*Falco peregrinus*), which is known to forage in the Accotink Creek corridor, among others.

The McCutchen Road site may also provide habitat for the wood turtle, a state-threatened species. On November 20, 2017, the site was evaluated for suitability for this species. The assessment included an evaluation for both aquatic and terrestrial habitats. No wood turtle aquatic habitat was documented at the site. However, potentially suitable aquatic habitat is located within Mason Run, approximately 100 feet east of the McCutchen Road site boundary. Suitable and marginal wood turtle terrestrial habitat was documented within the site, consisting of areas of mixed hardwood forest and mixed pine-hardwood forest (see Figure 11). The remainder of the McCutchen Road site was found to be unsuitable.

Fort Belvoir is not located within state-endangered little brown bat (*Myotis lucifugus*) and state-endangered tri-colored bat (*Perimyotis subflavus*) winter habitat and roosts known to Virginia Department of Game and Inland Fisheries (VDGIF). However, tri-colored bats have been traced at Fort Belvoir and have been roosting from collections of dead leaf clusters that have fallen and are hanging from live trees. Hibernacula for these species typically are located in western Virginia and typically consist of caves. As with the northern long-eared bat, mixed hardwood forests and mixed pine-hardwood forests can provide summer habitat for little brown bats and tri-colored bats in the form of roost sites and foraging areas. The pine plantation areas on the site are considered to be low-quality summer habitat and unlikely to support these bat species. Both species also utilize buildings, as well as trees, for maternity roosts. Little brown bats are commonly found in human-occupied buildings whereas, tri-colored bats are more commonly found in sheds and abandoned structures.

3.9.2 Environmental Consequences

3.9.2.1 Threshold of Significance

The threshold of significance would be exceeded if the alternative would jeopardize the continued existence of any federally listed threatened or endangered species or result in destruction of critical habitat; decrease the available habitat for commonly found species to the extent that the species could no longer exist in the area; eliminate a sensitive habitat such as breeding areas, habitats of local significance, or rare or state-designated significant natural communities needed for the survival of a species; or substantially degrade or minimize habitat.

3.9.2.2 Impacts of the Proposed Action.

Construction. Construction of the Proposed Action would require vegetation clearing within portions of the McCutchen Road site. It is estimated (based on the project boundary and a 10-foot buffer) that approximately 2 acres of forest would be cleared, including approximately 490 trees that are ≥4-inches DBH, 358 trees <4-inches DBH, and 8 shrubs ≥3-feet high. This loss of trees and shrubs would be mitigated in accordance with Fort Belvoir's Tree Removal and Protection Policy. Applying the 2:1 ratio for trees ≥4-inches DBH, and the 1:1 ratio for trees <4-inches DBH

and shrubs ≥3-feet high, approximately 980 trees ≥4-inches DBH, 634 trees <4-inches DBH, and 8 shrubs ≥3-feet high would be planted on-post in a designated location (to be determined during the design process). If this is not possible, an alternative "out-of-kind" mitigation method, such as stream restoration or Partners-In-Flight habitat enhancement, would be pursued. Landscaping within the proposed 911th EC Complex would be coordinated with the Fort Belvoir Natural Resources Program staff to ensure only native, non-invasive species are planted. Therefore, considering the mitigation that would be performed, no significant adverse impacts to trees would occur. Replanting for smaller vegetation removed within the RPA is discussed in Section 3.6.2.2.

Construction activities would likely result in the displacement of any common animals routinely making use of the McCutchen Road site and its immediate surroundings, and in the destruction of those less-mobile species. However, given the limited amount and quality of the affected habitat, this is not anticipated to affect a large number of individual animals and to have effects on the population or species level. Negligible adverse impacts on common animal species are anticipated.

With regard to protected species, no areas of suitable or marginal habitat for small whorled pogonia were identified during the habitat assessment. Additionally, the McCutchen Road site contains neither documented nesting sites nor a significant amount of foraging or roosting habitat for bald eagle. Therefore, construction of the Proposed Action would result in no impacts to the small whorled pogonia and bald eagle.

Tree clearing would result in the loss of some potential summer habitat for the northern long-eared bat. To avoid affecting this protected species, tree clearing would be conducted only between September 15 and April 15 in accordance with United States Fish and Wildlife Service (USFWS) guidelines and Fort Belvoir's policy. Compliance with this time-of-year restriction (TOYR) construction would support a finding of "Not Likely to Adversely Affect" the northern long-eared bat under Section 7 of the ESA. Additionally, the loss of potential summer habitat comprises a minor fraction of the overall amount of such habitat on Fort Belvoir. Therefore, construction of the Proposed Action would have no significant adverse impact on the northern long-eared bat.

The TOYR would also prevent significant adverse effects on nesting birds, as clearing would take place outside the nesting season for most birds. Similarly, the loss of forest cover potentially usable by birds, including birds protected under the MBTA, would be small relative to the total amount of such habitat on Fort Belvoir. Thus, the Proposed Action would not result in significant adverse impacts on bird species protected under the MBTA.

The McCutchen Road site is located within the rusty patched bumble bee historical range. Since the rusty patched bumble bee has not been observed or collected within the USFWS-mapped historical range since before the year 2000, presence of the rusty patched bumble bee is not probable and the Proposed Action is not anticipated to have any significant adverse impact on the rusty patched bumble bee.

The McCutchen Road site contains potential summer habitat for the little brown bat and tri-colored bat. The TOYR used to avoid impacts on the northern long-eared bat would also avoid affecting these two other species. Therefore, construction of the Proposed Action would have no significant adverse impact on the little brown bat and tri-colored bat.

The McCutchen Road site contains potentially suitable and marginal wood turtle terrestrial habitat, some of which would be cleared to construct the proposed 911th EC Complex. To minimize any potential impacts to wood turtles that may make use of this habitat, construction would follow VDGIF wood turtle protection guidelines as much as practicable. Those guidelines state that construction and land clearing activities should not occur within 900 feet of a stream (Mason Run) between April 1 and September 30. Since the McCutchen Road site is located entirely within 900 feet of a stream, clearing activities in areas of suitable or marginal habitat for wood turtle would have to abide by the TOYR. VDGIF guidelines also state that a 300-foot undisturbed, naturally vegetated stream buffer should be left adjacent to wood turtle aquatic habitat. The Proposed Action would require disturbance and tree clearing within the 300-foot vegetated stream buffer. Prior to clearing, therefore, coordination with VDGIF would be initiated to assess potential impacts to wood turtle and identify potential impact avoidance measures that would allow for development to occur within the 300-foot vegetated stream buffer while avoiding "take" of wood turtle or significant degradation of wood turtle habitat. Examples of impact avoidance measures include installing perimeter controls during the winter months to exclude the wood turtle from areas of construction activity, and briefing site development contractors on turtle identification needs and procedures for reporting any turtles found during preliminary clearing and earthwork. Also, immediately prior to initiating land clearing activity, a sweep of the construction area by trained conservation staff could be conducted to capture and relocate any turtle species that may have found their way into the construction area. All protection measures would follow regional conservation guidance for wood turtle and would be coordinated with VDGIF and Fort Belvoir environmental management staff to appropriately avoid and minimize any impacts. Overall, the loss of potential wood turtle habitat would comprise a small fraction of the overall habitat on Fort Belvoir. Therefore, taking into account the protective measures previously described, the Proposed Action would result in negligible adverse impacts on the wood turtle.

In a letter dated February 15, 2019, VGDIF issued concurrence with these findings, given the incorporation of the aforementioned protection measures into the Proposed Action. A copy of this correspondence is included in Appendix A.

Operation. Operation of the proposed 911th EC Complex has no potential to cause a significant adverse impact on vegetation; wildlife and wildlife habitat; or rare, threatened, and endangered species. Operational activities would not occur in natural areas, and replanting would be coordinated with the Fort Belvoir natural resources program staff to ensure only native, non-invasive species are utilized. Ground maintenance practices/standards are managed in accordance with an Integrated Pest Management Plan to reduce reliance on pesticides and herbicides, to enhance environmental protection, and to maximize the use of integrated pest management techniques. Additionally, the Fort Belvoir Integrated Natural Resources Management Plan (U.S. Army, 2001) recommends native plant species for restoration and landscaping, including native flowers that support pollinator habitat. Therefore, operation of the Proposed Action would have no significant adverse impact on these biological resources.

Based on this impact assessment, Fort Belvoir has completed an ESA Section 7 Project Review Package with a USFWS Self-Certification Letter in support a finding of no significant effect. A copy of the ESA Section 7 Project Review Package is provided in Appendix A.

3.9.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, the proposed 911th EC Complex would not be constructed, and no changes would occur to existing vegetation; wildlife and wildlife habitat; or rare, threatened, and endangered species. Therefore, there would be no impact on biological resources.

3.10 Noise

Sound occurs when vibrations that travel through a medium are interpreted by the biological elements of the ear. Noise occurs when sounds become undesirable, unpleasant, or damaging. Noise-sensitive receptors are generally identified as residences, hospitals, libraries, recreation areas, and religious institutions.

Sound pressure levels are quantified in decibels (dB), which is dependent on both frequency and intensity, and is given a level on a logarithmic scale. The way the human ear hears sound intensity is quantified in dBA, which are level "A" weights according to weighting curves. Sound levels for common activities and construction work are presented in Table 8.

Table 8. Common Household, Industrial, and Construction Sound Levels

Sound Level (dBA)	Common Sounds	Effect
140	Jet engine	Painful
130	Near air-raid siren	Painful
120	Jet plane takeoff, siren	Painful
110	Chain saw, thunder, garbage truck	Extremely Loud
100	Hand drill	Extremely Loud
90	Subway, passing motorcycle, gas-powered lawnmower	Extremely Loud
85	Backhoe, paver	Very Loud
80	Blow-dryer, kitchen blender, food processor, cement mixer, power saw	Very Loud
70	Busy traffic, vacuum cleaner, alarm clock, group conversation	Loud
60	Typical conversation, dishwasher, clothes dryer	Moderate
50	Moderate rainfall	Moderate
40	Quiet room, hum of a refrigerator	Moderate
30	Whisper, quiet library	Faint

Sources: ASHA, 2017; Centers for Disease Control and Prevention, 2016

The National Institute for Occupational Safety and Health (NIOSH) recommends that individuals working in an environment of 85 dBA or louder for an eight-hour workday limit their exposure to this noise level and wear protective earwear to help manage and prevent hearing loss due to noise exposure. The Occupational Safety and Health Administration's (OSHA's) Noise standard (29 CFR 1910.95) requires employers to have a hearing conservation program in place if workers are exposed to a time-weighted average noise level of 85 dBA or higher over an 8-hour work shift. Neither NIOSH nor OSHA establish non-occupational noise safety levels.

The day-night average sound level (DNL) is also a useful descriptor for noise because it approximates the response characteristics of human hearing. It is the average noise level over a 24-hour period with nighttime hours adjusted with a 10-dB increase. The higher the DNL, the louder the sound. A-weighted DNL is commonly used to assess aircraft noises.

The *Noise Control Act* of 1972 (PL 92-574) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. The applicable local noise control regulation is the Fairfax County Noise Ordinance (29-15-108.1), which states "no person shall permit, operate, or cause any source of sound or sound generation to create a sound which exceeds the limits set forth in the following table titled 'Maximum Sound Levels' when measured at the property boundary of the sound source or at any point within any other property affected by the sound". As shown in Table 9, the maximum sound levels from continuous sounds sources (such as a jackhammer) in residential areas should not exceed 60 dBA during the day and 55 dBA at night. An impulse sound is generally characterized by a sound event that lasts for no more than one second, such as sounds from weapons, pile drivers, or blasting.

Table 9. Fairfax County Noise Ordinance (§29-15-108.1)

Use and Zoning District Classification	Time of Day	MAXIMUM SOUND LEVELS	
		Continuous Sound (dBA)	Impulse Sound (dB)
Residential Areas in Residential Districts	7 a.m. to 10 p.m. (07:00 to 22:00)	60	100
Residential Areas in Residential Districts	10 p.m. to 7 a.m. (22:00 to 07:00)	55	80

3.10.1 Affected Environment

Sensitive Receptors

The nearest potential noise-sensitive receptors to the proposed 911th EC Complex at McCutchen Road are all located within Accotink Village, which is an enclave of Fort Belvoir and is adjacent to the eastern border of the McCutchen Road site (Figure 12).. Accotink Village is a triangular-shaped area, covers approximately 34.5 acres, and is generally bisected by Backlick Road. Residences include approximately 14 single- or multi-family homes on Backlick Road and three apartment complexes (Haven Fort Belvoir, Belvoir Square Apartments, The Courts at Belvoir) on Richmond Highway and which are also accessible from Backlick Road. All of the residences are separated from the site by a mature forest ranging in width from 100 to 450 feet. The nearest religious institutions include Accotink United Methodist Church and Hoa Nghiem Vietnamese Buddhist Temple, which are located on the eastern side of Backlick Road and approximately 450 and 750 feet, respectively, east from the McCutchen Road site. These religious institutions are also separated from the site by residences, Backlick Road, and a mature forest ranging in width from 100 to 450 feet. The Ancient Egyptian Arabic Order Nobles Mystic Shrine (a fraternal/social/charitable organization) Magnus Temple #3 is located on the western side of

Backlick Road, approximately 200-feet east of the site, and separated from the site by a mature forest approximately 100 to 150 feet in width.

There are no daycare facilities, schools, libraries, or medical centers within a one-mile radius of the McCutchen Road site. The nearest daycare and schools include the Woodlawn Child Development Center and the Fort Belvoir Primary and Upper Schools, all of which are located approximately located 1.1-miles northeast of the site. The nearest library, the Fairfax County Kingstowne Branch Library, is located approximately 1.8-miles north of the site. The nearest medical center is the Fort Belvoir Hospital, located approximately 1.1-miles southeast of the site (NEPAssist, 2018).

Current Sound Conditions at the McCutchen Road Site

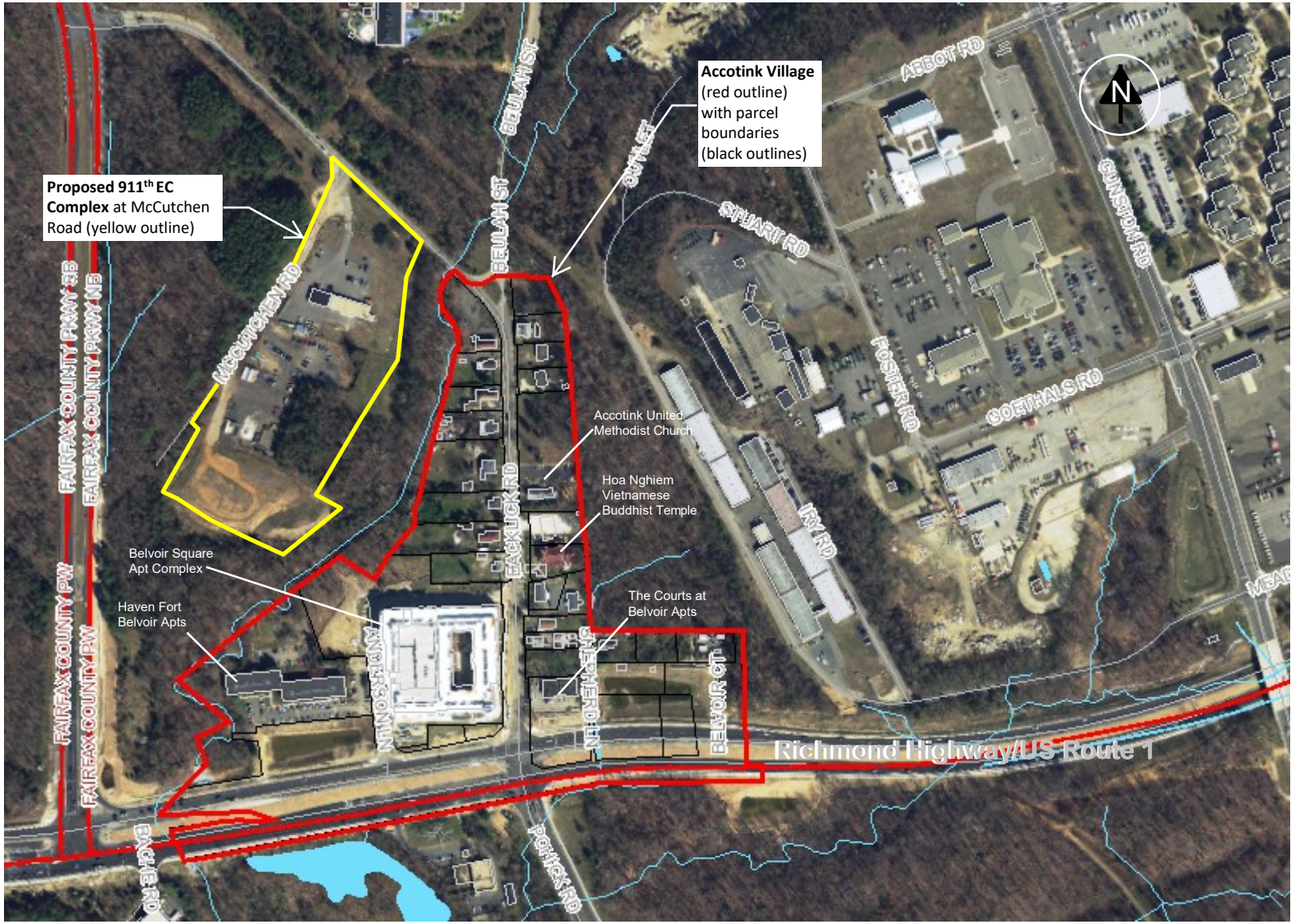
Currently, the major noise sources at Fort Belvoir include the DAAF and the 249th Engineer Battalion (Prime Power). The DAAF is located approximately one mile west of the McCutchen Road site. Activities at the DAAF, including airplane and helicopter takeoffs and landings, are apparent at the site and, according to Fort Belvoir staff, have been identified as a nuisance noise by residents in the area. Prime Power is located approximately 0.9-miles south of the site on the South Post of Fort Belvoir. Prime Power uses diesel generators for training purposes. However, due to distance and land features, noise from Prime Power is not apparent at the McCutchen Road site.

Other noises reaching the McCutchen Road site are generated from vehicular traffic on Richmond Highway, Fairfax County Parkway, and Backlick Road. Ambient daytime sound levels are anticipated at the McCutchen Road site to be at or below 50 dBA, based on sound levels measured at the nearby 911th Engineer Company's Goethals Road facility.

Current 911th Engineer Company's Goethals Road Operational Sound Profile

To meet mission and training requirements, the 911th Engineer Company currently performs a variety of training activities at their Goethals Road facility. The southern portion of the 911th Engineer Company's Goethals Road facility contains a rubble training area (RTA) containing large concrete rubble piles, which are used during training to simulate conditions that may be encountered during an emergency response. The RTA at the Goethals Road facility is located in a depression that is surrounded by a large natural hill to the north and smaller manmade berms throughout. Its location in an industrial area within Fort Belvoir negates the need for formal sound mitigation measures during training activities.

Figure 12. Proposed 911th EC Complex at McCutchen Road - Potential Noise Receptors



The primary training activities performed at the RTA include breaking up concrete slabs with single or multiple jackhammers (breaching training), and practice with maneuvering a track-hoe excavator, crane, skid loaders, and various other construction vehicles. The jackhammer training is typically performed outdoors within a concrete culvert, or, less frequently, within a CONEX shipping container that simulates an emergency response in a confined space. The jackhammers regularly used by the 911th Engineer Company are lightweight electric models powered by a portable or vehicle-based electric generator. Due to their size and limited maneuverability, larger hydraulic and pneumatic jackhammers are not typically used by the 911th Engineer Company. Overall, training may occur six to ten weeks during the year, on several weekdays during those weeks, during normal daytime working hours from 09:00 until approximately 15:30, with limited operations during the typical lunch hours of 11:00-13:00. Training occurs in two- to three-hour periods, for a total of four to six hours per training day. Thus, training typically occurs 6 to 10 weeks per year (equivalent to 30 to 50 days per year). Very rarely has training been conducted at night, and not since at least November 2017.

Under the Proposed Action, the current RTA at the Goethals Road facility would be relocated to the southern portion of the proposed 911th EC Complex at the McCutchen Road site. Figure 13 depicts the location of the current RTA at the Goethals Road facility and the proposed location of the RTA at the McCutchen Road site.

Upon review of the Proposed Action presented in the September 2018 EA, comments regarding noise were provided by USEPA on December 6, 2018, and Fairfax County on February 14, 2019. Both agencies requested further information regarding potential noise impacts from proposed training activities on residential receptors abutting the proposed McCutchen Road site. (Copies of correspondences with responses are provided in Appendix A). Fairfax County questioned whether proposed training activities at the McCutchen Road site would exceed the Fairfax County noise ordinance (§29-15-108.1), which prohibits continuous construction noises above 60 dBA at adjacent residential properties during daytime hours (07:00 to 22:00). (It is noted that the 911th Engineer Company training activities typically occur from 09:00 to 15:30.)

Accordingly, in response to these comments, the US Army Public Health Center (APHC) conducted a noise assessment during 911th Engineer Company training activities at the Goethals Road facility on April 10, 2019. The purpose of the assessment was to measure sound levels generated during 911th Engineer Company training activities at the Goethals Road facility. This data was then used to estimate the sound levels that would be generated should the RTA be relocated to the proposed 911th EC Complex at the McCutchen Road site.

During the noise assessment, APHC set up seven sound level monitoring stations at 100, 200, and 400 feet away from the RTA at the Goethals Road facility (Figure 14). Sound levels were measured when training was not in progress to obtain ambient background levels (averaging 49 dBA), and then while training activities were being performed with one or more jackhammers and heavy equipment operating simultaneously. This type of simultaneous training is uncommon and thus the sound levels generated represented a worst-case scenario. A summary of the sound levels measured during the training event is provided in Table 10. A copy of the full noise assessment report is provided in Appendix D.

APHC used these empirical sound level data to estimate what the potential sound levels would be at the residential properties abutting the McCutchen Road site, should the training activities at Goethals Road be relocated to the proposed new RTA at the proposed 911th EC Complex at McCutchen Road. To estimate these sound levels, APHC applied the acoustical spherical spreading rule, which states that for each doubling of distance from a point source, sound levels will decrease by 6 dBA. Applying the rule to the actual sound levels (approximately 75 to 77 dBA) measured at 100 feet away (at sound monitoring station 7) from the RTA at Goethals Road, APHC concluded that similar training sound levels would be between 63 and 65 dBA at approximately 400 feet from the proposed RTA at the McCutchen Road site; 400 feet is the approximate distance between the proposed RTA and the nearest abutting residential receptor (Belvoir Square Apartments on Richmond Highway) (Figure 12 and Figure 13).

Table 10. Sound levels measured during 911th EC training at the Goethals Road RTA

Distance from RTA noise source to sound measuring station (feet)		**100**	**200**	**200**	**200**	**400**	**400**	**400**
Sound measuring station ID:		**Site 7**	**Site 2**	**Site 4**	**Site 6**	**Site 1**	**Site 3**	**Site 5**
Time	**Activity**	**Average Lmax (dBA)**						
10:17 – 10:37	Jackhammers (multiple)	77.2	56.3	66	55.7	54.9	52.6	54
10:40-10:48	Jackhammers + other construction	74.7	69.2	71.5	64.4	63	55.3	57.7
11:03 – 11:25	Jackhammers + other construction	75.5	70	69.7	64.3	64	57.6	56.7
13:06 – 13:15	One jackhammer	75.2	56.3	64.8	57.8	62	52.1	53.2
13:17-13:29	Two jackhammers	74.8	58.2	64.5	60	62.3	52.5	53.4
13:30 - 13:39	Three jackhammers	75.4	56.4	66.2	60.8	60.1	51.7	53.1
13:41 – 15:00	Jackhammers[(a)] + other construction	76.2	74.2	67.7	58.9	64.5	56.5	54.3

Lmax = A-weighted maximum noise level
(a) = Jackhammer activity moved 100-feet northwest of location identified in Figure 14.

Figure 13. Current and Proposed RTA Locations

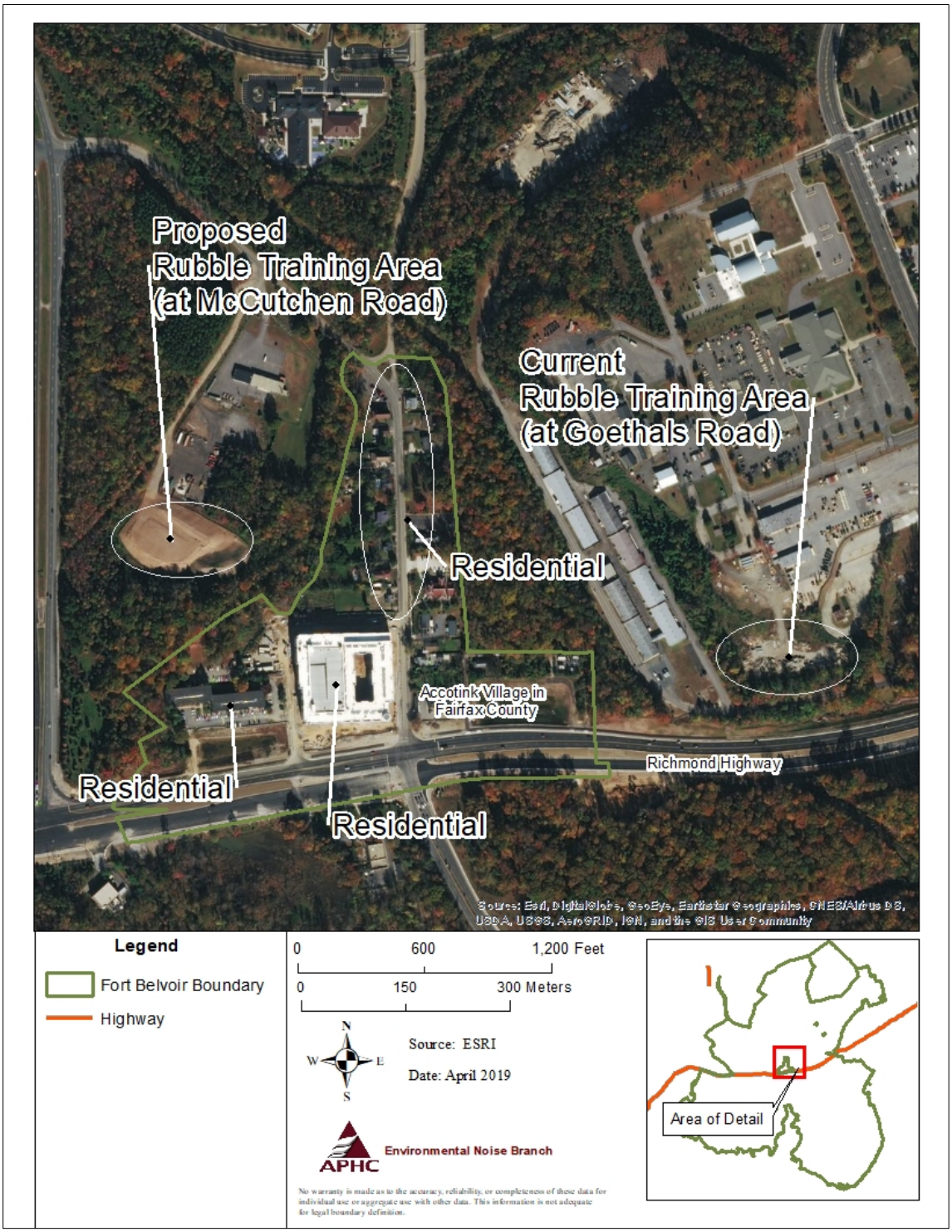
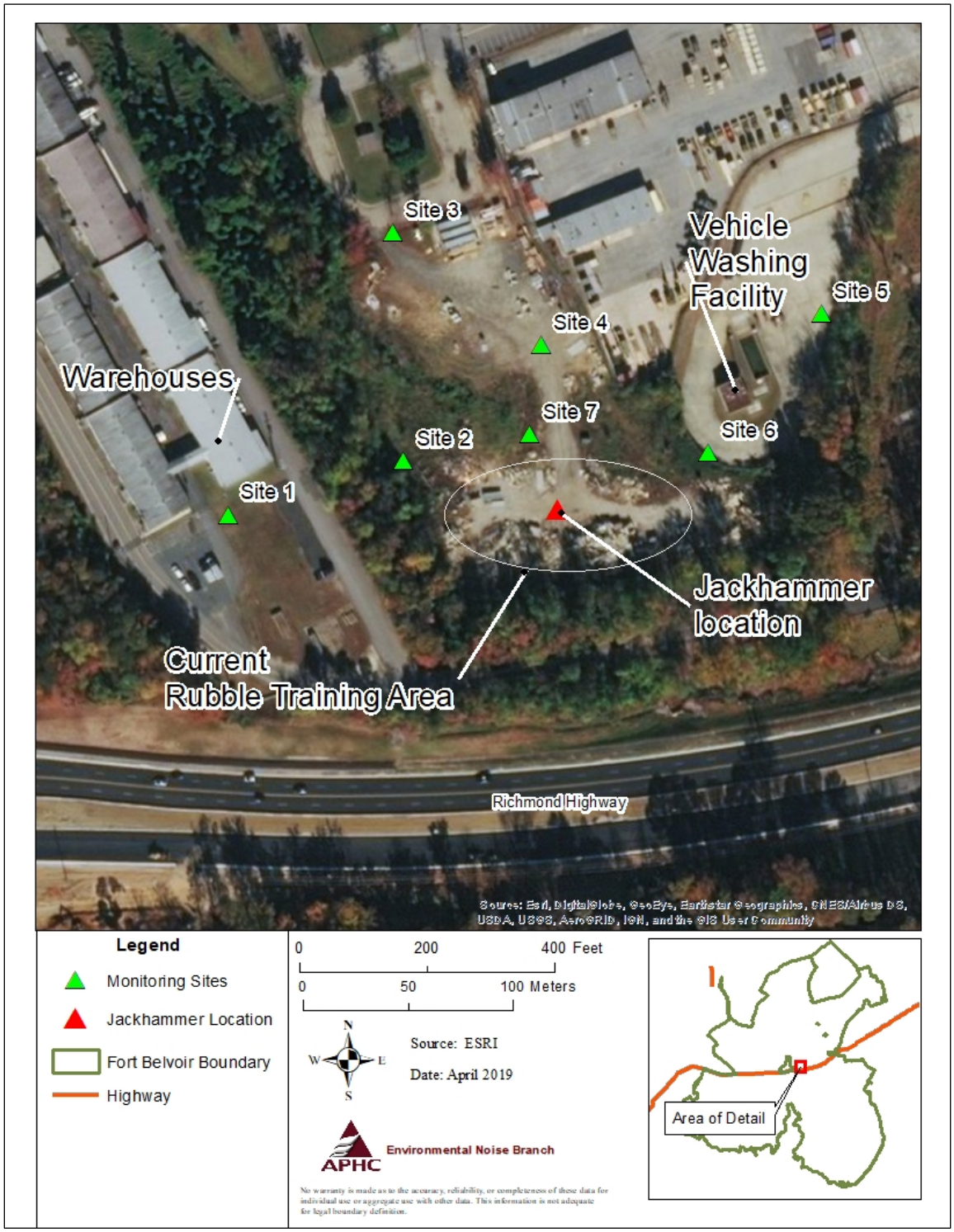


Figure 14. Sound Monitoring Stations at the 911th EC RTA at Goethals Road



3.10.2 Environmental Consequences

3.10.2.1 Threshold of Significance

Noise impacts would be significant if the Proposed Action created appreciable long-term noise increases in areas of incompatible land use. Additionally, continuous construction noises above 60 dBA may be considered a nuisance if audible at residential properties during daytime hours (07:00 to 22:00) per the Fairfax County noise ordinance. Furthermore, noise levels exceeding NIOSH or OSHA guidance can be harmful to workers.

3.10.2.2 Impacts of the Proposed Action.

Construction. Existing sounds generated from aircraft traveling to and from the DAAF, and from vehicle traffic on Richmond Highway, Fairfax County Parkway, and Backlick Road, dominate the noise profile in the area.

During the approximately 33-month construction period, sources of noise would include equipment used to demolish the existing buildings at the site, followed by those from equipment used to construct the 911th EC Complex at the McCutchen Road site. Noise produced by construction equipment varies depending on the type of equipment used and its duration (Table 8). Equipment associated with constructing the Proposed Action would include cement and mortar mixers, cranes, excavators, forklifts, graders, pavers, rollers, and skid steer loaders.

To minimize the potential adverse impact from these noises, construction vehicles would be equipped with noise-dampening equipment including mufflers which would be operated according to the manufacturers' instructions. Construction vehicles and equipment would be turned off when not in use for more than five minutes. Additionally, construction would take place during daylight hours on weekdays, unless there is a specific action that would require working outside of this normal timeframe, such as mobilizing oversized materials or equipment to the site.

Construction noises would be further dampened by maintaining the vegetated borders surrounding the McCutchen Road site, which act as natural sound barriers between the site and abutting residences. Therefore, construction noises would be minimally evident to nearby noise-sensitive receptors.

OSHA regulations require that employers make hearing protectors available to those employees who are exposed to work conditions at or above 85 dBA (OSHA, 2002). Thus, potential impacts from construction equipment noise on workers would be minimized by following OSHA regulations and the USACE *Safety and Health Requirements Manual EM 385-1-1* (USACE, 2014).

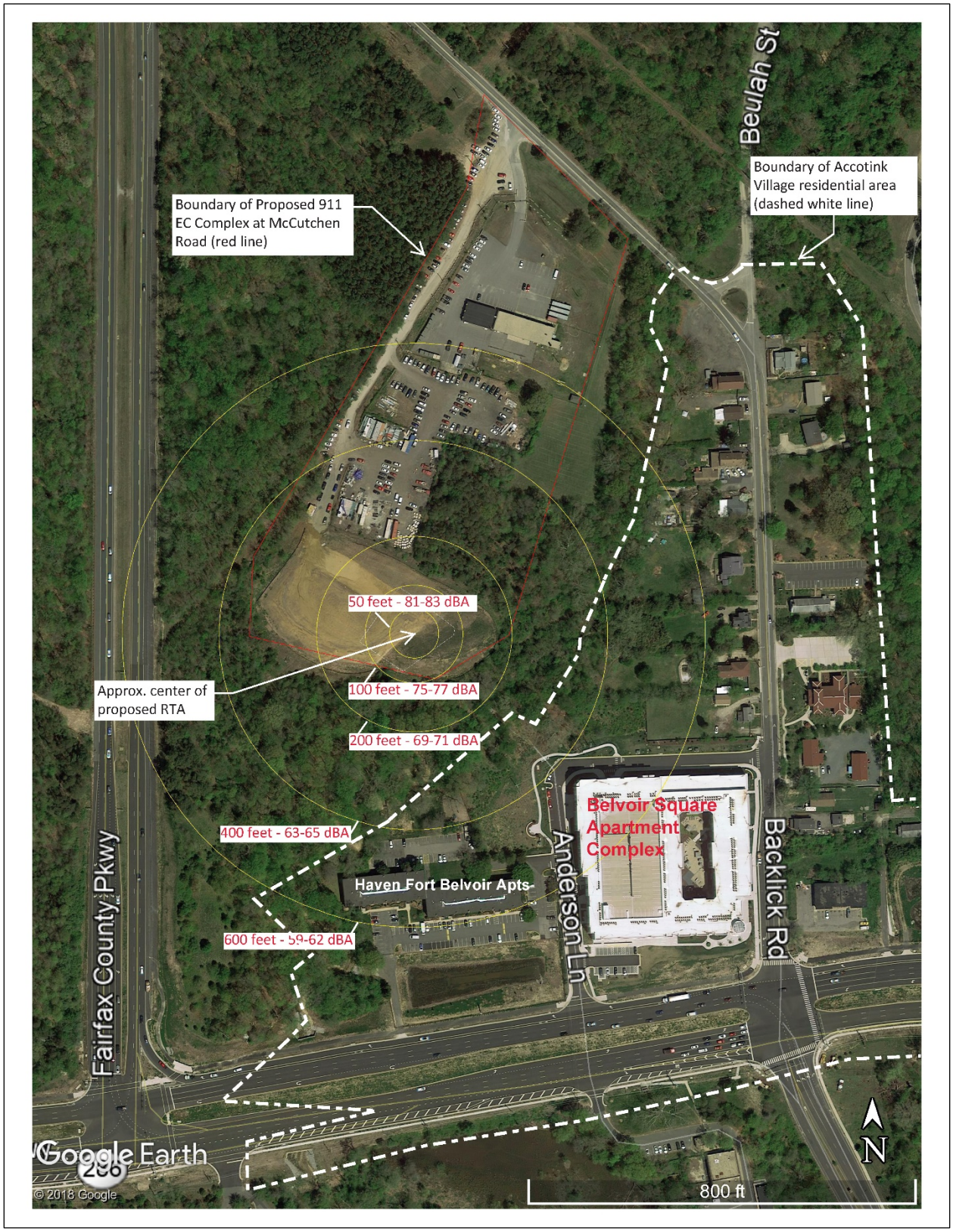
Therefore, construction noise associated with the Proposed Action would have short-term, direct, negligible adverse impacts to workers and to nearby receptors.

Operation. During operation of the Proposed Action, sound would be generated from 911th EC staff commuting in their personal vehicles on Backlick Road to and from the 911th EC Complex at McCutchen Road. These sounds would primarily occur during weekday mornings (07:00-08:00) and afternoons (16:00-17:00). Up to 100 staff may work at the 911th EC Complex; thus, up to 100 personal vehicles may be expected to travel on Backlick Road during these commuting periods. Backlick Road has a posted speed limit of 15 to 25 mph. The sound level at a point 25 feet from a passenger vehicle traveling at 30 mph is approximately 62 dBA (Cowen, 1993). 911th

Engineer Company staff would follow the posted speed limit. Thus, the sound levels from personal vehicular traffic along Backlick Road would not be above sound levels currently generated by other vehicles traveling on this road, nor would these sound levels constitute an exceedance of the Fairfax County noise ordinance.

Operational sounds from within the proposed 911th EC Complex at McCutchen Road would primarily be generated during training exercises occurring within the new RTA. Based on the current design plan, the new RTA would be located in a 15,000-square foot area within the southeastern portion of the 911th EC Complex (see Figure 5 and Figure 13). As previously described, under the Proposed Action the training activities currently performed by the 911th Engineer Company at the Goethals Road facility would be relocated to the new RTA. Training activities would continue to include the use of jackhammers and heavy construction equipment. Based on sound levels measured by APHC during the 911th Engineer Company training activities at the Goethals Road facility, APHC concluded that these same training activities, if conducted at the new RTA at the McCutchen Road site, would generate sound levels of approximately 75 to 77 dBA at 100 feet away from the sound source, and approximately 63 and 65 dBA at approximately 400 feet away, which is the approximate distance between the new RTA and the nearest abutting residential receptor (Belvoir Square Apartments on Richmond Highway). A diagram depicting estimated sound levels at selected distances from the proposed new RTA is presented in Figure 15. The nearest single-family residence is located approximately 570 feet east from the new RTA; at 570 feet, the estimated sound level would be approximately 60 to 62 dBA. These sound levels do not account for any noise reductions that may be provided by the approximately 100-450-foot-wide forested area between the new RTA and residential areas, nor the typical reduction of approximately 10-35 dBA that occurs when windows (in good condition) at a residence are closed.

Figure 15. Estimated Sound Levels from the Proposed RTA at the McCutchen Road Site



As previously described, the Fairfax County noise ordinance (§29-15-108.1) specifies that the daytime maximum sound level from continuous construction activities should not exceed 60 dBA at abutting residential properties. Thus, the proposed training activities at the new RTA are estimated to exceed this level by up to approximately 5 dBA at the nearest abutting residential property. Although the 60 dBA sound level criteria are routinely exceeded by common sound sources in urban and suburban areas, if the training is a frequent occurrence, abutting residents may consider the sound intrusive and a nuisance.

Eliminating the new RTA from the proposed 911th EC Complex at McCutchen Road is not a reasonable alternative and would not meet the purpose and need for action, because consolidating training activities at a single site is needed for the 911th Engineer Company to achieve mission efficiencies. Thus, the 911th Engineer Company would take reasonable measures to minimize the potential nuisance associated with exceeding the Fairfax County noise ordinance of 60 dBA by approximately 5 dBA at the residential properties. These measures include:

- conduct training on weekdays during daytime hours between 09:00 and 15:30;
- to the extent practical, place concrete slabs, which can act like a noise shield to reduce sound levels by approximately 3 dBA, around the location of training and break the line of sight to residential receptors;
- reiterate to residents that noise concerns can be reported to the Fort Belvoir Public Affairs Office at usarmy.belvoir.imcom-atlantic.mbx.public-affairs-office@mail.mil; and
- notify abutting residents about the general nature and schedule of planned training activities at the new RTA.

Should these measures be insufficient, such that residents report noise complaints to the Fort Belvoir Public Affairs Office, the 911th Engineer Company may consider relocating the new RTA to the southwestern portion of the 911th EC Complex at McCutchen Road. Relocating the RTA to the southwest portion of the site would increase the distance to the nearest residential area to approximately 650 feet. At this distance, the estimated sound level from training activities would be approximately 58 to 61 dBA at the nearest residential receptor.

Therefore, sound levels generated during operation of the Proposed Action are anticipated to have a long-term, direct, negligible adverse impact on nearby receptors.

3.10.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, no new noise generating activities would occur and the current noise conditions at the McCutchen Road site would remain unchanged. Therefore, there would be no impacts associated with noise.

3.11 Socioeconomics

3.11.1 Affected Environment

Socioeconomics combines both the elements of economic activity and social processes. Socioeconomics in relation to the social standing or class of individuals measures a combination of their education, income, and occupation.

Fort Belvoir is located in Fairfax County, Virginia, which is the region of interest (ROI) for this topic. Table 11 summarizes the populations in the ROI and Virginia in 2010, the estimated population in 2017, and the percentage change (US Census Bureau, 2018).

Table 11. Population Estimates

Area	2010 Census	2017 Estimate	Percentage Change
Fairfax County, VA	1,081,685	1,148,433	5.8%
Virginia	8,001,041	8,470,020	5.5%

Source: *US Census Bureau, 2018*

Table 12 shows the percentage of the total population who are working in the ROI and in Virginia. Of the total working population in Fairfax County, 80,072 people are part of the labor force associated with the Armed Forces; in Virginia, 706,539 people are associated with the Armed Forces. Also detailed in this table are the number and percentages of the total working population in various occupational categories.

Table 12. Employment Summary

Location:	Fairfax County		Virginia	
Percent population 16 years and over in Labor Force (2012-2016)	**71.4%**		**64.5%**	
Major Employment Categories	Population	Percent	Population	Percent
Construction	22,984	3.97%	172,653	5.40%
Manufacturing	5,840	1.01%	236,645	7.40%
Wholesale Trade	12,272	2.12%	103,178	3.23%
Retail Trade	52,048	9.00%	423,864	13.25%
Transportation and warehousing, and utilities	8,151	1.41%	116,594	3.65%
Information	35,083	6.07%	94,665	2.96%
Finance and insurance, real estate, and rental and leasing	41,137	7.11%	211,347	6.61%
Professional, scientific, and technical services	188,301	32.55%	437,548	13.68%
Management of companies and enterprises	17,411	3.01%	67,733	2.12%
Administrative, support, waste management, and remediation services	51,679	8.93%	245,379	7.67%

Location:	Fairfax County		Virginia	
Percent population 16 years and over in Labor Force (2012-2016)	**71.4%**		**64.5%**	
Major Employment Categories	Population	Percent	Population	Percent
Educational services, and health care and social assistance	67,534	11.68%	514,756	16.09%
Arts, entertainment, and recreation, and accommodation and food services	52,815	9.13%	398,187	12.45%
Other services, except public administration	22,871	3.95%	162,852	5.09%
Agriculture, forestry, fishing and hunting, mining, quarrying, and oil and gas extraction	---	---	12,752	0.40%
Other	322	0.06%	565	0.02%

Source: US Census Bureau, 2018

Table 13 summarizes the number of housing units in the ROI and in Virginia.

Table 13. Housing Units

Area	Total Units (2016)	Vacant Units	Percent Vacant
Fairfax County	414,268	15,692	3.7%
Virginia	3,491,054	336,906	10%

Source: U.S. Census Bureau, 2018

3.11.2 Environmental Consequences

3.11.2.1 Threshold of Significance

An impact on socioeconomics is deemed significant if it exceeds the ability of the ROI to accommodate a departure or influx of households, personnel and their families, or school-aged children, corresponding to more than half of the forecasted growth in the community.

3.11.2.2 Impacts of the Proposed Action.

Construction. Construction of the proposed 911th EC Complex would require approximately 30 workers during the anticipated 2.75-year construction period. It is expected that these construction workers would be hired from the available labor pool in Fairfax County or Virginia, which are both sufficiently large enough to absorb this demand without negatively impacting labor availability elsewhere in the county or state. The temporary increase in local workers would not result in an increase in population or need for new housing within the ROI.

The construction of the Proposed Action would require purchasing materials from local suppliers, to the extent practicable. This purchasing, as well as spending by construction workers at local businesses, would have a positive impact on the local economy.

Therefore, construction of the Proposed Action would be anticipated to have a short-term, minor, beneficial impact on socioeconomics.

Operation. Operation of the Proposed Action would increase the number of 911th Engineer Company staff from approximately 74 to 100. This increase in staffing would improve wages for this additional workforce but would have a negligible impact on the overall socioeconomic condition of Fairfax County or Virginia. Therefore, operation of the Proposed Action would have a beneficial, but negligible long-term impact to socioeconomics.

3.11.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, the Proposed Action would not be constructed, and none of the beneficial impacts to socioeconomics associated with the construction or operation of the Proposed Action would occur. Therefore, under the No Action alternative, current socioeconomic conditions would remain unchanged.

3.12 Community Services

3.12.1 Affected Environment

Emergency Services

Safety and security issues at Fort Belvoir are handled by the Directorate of Emergency Services, which includes the Army's Military Police and Fire and Emergency Medical Services. The Military Police headquarters is located on Abbot Road, on the North Post. There are three fire stations on Fort Belvoir. Five fire companies (three engine companies, one ladder truck company, and one airport crash company), with a total staff of 66 firefighters, staff these stations. At least 21 firefighters are on duty 24 hours a day. The closest fire station to the McCutchen Road site is located on Abbott Road (Station 63).

Medical needs of military personnel and their dependents (and in an emergency, civilian personnel) at Fort Belvoir are served by the Fort Belvoir Community Hospital, a 130-bed facility, located near Pence Gate on South Post. The nearest off-Post hospital to Fort Belvoir is Inova Mount Vernon Hospital, a 232-bed facility approximately 5 miles to the northeast.

Fairfax County provides police, fire, and rescue services to civilians within the community.

As previously described, the 911th Engineer Company provides emergency response services to federal emergencies within the NCR.

Community Resources

Community resources include religious institutions and schools. There are five (5) religious institutions located on Fort Belvoir. The nearest religious institutions include Accotink United Methodist Church and Hoa Nghiem Vietnamese Buddhist Temple, which are located on the eastern side of Backlick Road and approximately 450 and 750 feet, respectively, east from the McCutchen Road site. There are five (5) schools located on Fort Belvoir. The closest school is

approximately 1.1 miles northeast of the site. There are three (3) healthcare facilities located on Fort Belvoir, with the closest facility approximately 1.1-miles southeast of the site (NEPAssist, 2018).

3.12.2 Environmental Consequences

3.12.2.1 Threshold of Significance

An impact on community services is deemed significant if it exceeds the ability of the current emergency and community resources to accommodate the implementation of an alternative.

3.12.2.2 Impacts of the Proposed Action.

Emergency Services

Construction. Construction of the 911th EC Complex has the potential to cause injuries to workers using machinery and associated construction equipment. To minimize the potential for injuries, the construction contractor would implement BMPs to ensure the safety of workers is maintained throughout the construction period. These BMPs would include the use of safety equipment (i.e., hard hats, reflective vests, hearing protection); maintaining safety equipment in good condition and proper working order; and providing workers with any specialized safety training needed to perform a specific job function.

In the event that an accident occurs during construction of the proposed 911th EC Complex, emergency response services would be provided by Fairfax County; the Army is not responsible to respond to civilian accidents at the construction site. Fairfax County has sufficient emergency response capacity to respond to potential accidents at the site without decreasing the level of service elsewhere in the community.

Therefore, during construction of the Proposed Action, there would be a short-term, direct, negligible adverse impact on emergency services.

Operation. Operation of the Proposed Action would not be anticipated to result in an increase of burden or demand for fire and rescue calls, which would be provided by Fort Belvoir once the 911th EC Complex is operational. All operational staff working at the 911th EC Complex would be highly trained and equipped with appropriate safety gear required to perform assigned duties without causing injury to themselves or others according to Army safety protocols. Additionally, the appropriate number of fire pumps according to UFC 3-600-01 would be installed and maintained. Should an accident occur at the 911th EC Complex, the Fort Belvoir emergency services have sufficient capacity to respond without decreasing the level of service elsewhere within Fort Belvoir. Therefore, operation of the Proposed Action would have no impact on Fort Belvoir's on-Post emergency service providers.

Consolidating the operations of the 911th Engineer Company to one location would improve the ability to more rapidly deploy and respond to federal emergencies within the NCR. Therefore, operation of the Proposed Action would have a long-tern, direct and indirect, beneficial impact on emergency response services within the NCR.

Community Resources

Construction and Operation. Construction and operation of the Proposed Action would have no means to impact community resources. The Proposed Action would not substantively increase population levels, such that there would be no significant increases in school populations or demands on religious institutions.

Therefore, there would be no impact to community resources due to the implementation of the Proposed Action.

3.12.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, there would be no change in demand for emergency services or community resources. Thus, under the No Action alternative, there would be no short-term or long-term, direct or indirect, significant, adverse or beneficial impacts to community services.

Under the No Action alternative, the ability of the 911th Engineer Company to decrease their response times to emergency services within the NCR would not occur, as the 911th Engineer Company would continue to be housed at geographically separate locations at Fort Belvoir. Therefore, the No Action alternative would have a long-term, direct and indirect, adverse impact in relation to this community service within the NCR.

3.13 Solid and Hazardous Materials

3.13.1 Affected Environment

Hazardous and toxic materials or substances are generally defined as materials or substances that pose a risk (i.e., through either physical or chemical reactions) to human health or the environment. Regulated hazardous substances are identified through a number of federal laws and regulations. The most comprehensive list is contained in 40 CFR 302, and identifies quantities of these substances, when released to the environment, that require notification to a federal agency. Hazardous wastes, defined in 40 CFR 261.3, are considered hazardous substances. Generally, hazardous wastes are discarded materials (e.g., solids or liquids) not otherwise excluded by 40 CFR 261.4 that exhibit a hazardous characteristic (i.e., ignitable, corrosive, reactive, or toxic), or are specifically identified within 40 CFR 261. Petroleum products are specifically exempted from 40 CFR 302, but some are also generally considered hazardous substances due to their physical characteristics (i.e., especially fuel products), and their ability to impair natural resources.

Fort Belvoir conducts its hazardous waste management program in compliance with the *Resource Conservation and Recovery Act* (RCRA). Fort Belvoir has a Hazardous Waste Management/Waste Minimization Plan (HWMP) and a Master Spill Plan. Fort Belvoir participates in the "Greening of Government" program (EO 13101, *"Greening" the Government through Waste Prevention*) that promotes the purchase of products to reduce solid and hazardous waste through implementation of a centralized system for tracking procurement, distribution, and management of toxic or hazardous materials. In addition, the cleaning and maintenance departments have replaced toxic and hazardous materials with environmentally friendly chemicals and adhere to an Integrated Pest Management Plan. Fort Belvoir Environmental and Natural Resources Division (ENRD) also files annual hazardous material and toxic chemical reports in compliance with the *Emergency Planning and Community Right-to-Know Act* (EPCRA).

Regulated Building Materials

Fort Belvoir has confirmed the presence of asbestos-containing building materials (ACM) and lead-based paint (LBP) in Buildings 2476 and 2477. Any demolition or renovation operation at an institutional, commercial or industrial building is regulated by the USEPA National Emissions Standard for Hazardous Air Pollutants (NESHAP, 40 CFR 61, Subpart M). The regulations require a thorough inspection for asbestos where the demolition or renovation operation will occur. Notification requirements apply to any demolition and to renovations over a certain threshold amount of regulated ACM. Work practice standards, designed to minimize the release of asbestos fibers during building demolition or renovation, waste packaging, transportation, and disposal, must also be followed.

OSHA regulates asbestos worker protection under 29 CFR 1926.1101. OSHA regulates construction worker exposure to any amount of lead under 29 CFR 1926.62. The disposal of commercial waste materials containing lead from renovation, abatement, and/or demolition is regulated by RCRA.

The state regulations concerning asbestos and lead in Virginia include, but are not limited to, the following:

- Title 54.1, Chapter 5 Commonwealth of Virginia Asbestos, Lead, and Home Inspection Contractors and Workers – Virginia Board for Asbestos, Lead, And Home Inspectors, Asbestos Licensing Regulations (18 VAC 15-20).
- 16 VAC 25-20-10 et seq. Commonwealth of Virginia Regulation Concerning Licensed Asbestos Contractor Notifications, Asbestos Project Permits, and Permit Fees.
- 61.140 through 61.15, 16 VAC 25-30-10 et seq. Commonwealth of Virginia Regulations for Asbestos Emissions Standards for Demolition and Renovation Construction Activities and the Disposal of Asbestos Containing Construction Wastes-Incorporation by Reference, 40 CFR 763.
- Code of Virginia §§40.1-51.20 to 51.22 Virginia Department of Labor and Industry Regulations, Asbestos Notification and Permit Program.

Unexploded Ordnance

The DOD developed the Military Munitions Response Program (MMRP) to address munitions-related concerns, including explosive safety, environmental, and health hazards from releases of unexploded ordnance (UXO), discarded military munitions (DDM), and munitions constituents (MC) found at locations other than operational ranges on active and Base Realignment and Closure (BRAC) installations and Formerly Used Defense Sites (FUDS) properties. The MMRP addresses non-operational range lands with suspected or known hazards from munitions and explosives of concern (MEC) that occurred prior to September 2002 but are not already included in an Installation Response Program (IRP) site cleanup activity.

According to Fort Belvoir representatives, there is no documented history of munitions training activity on the project site. However, because training activity did occur immediately west of the Fairfax County Parkway and training munitions have been recovered from that area, UXO safety literature will be provided during the dig permit process for the 911th EC Complex project.

Environmental Contamination

Fort Belvoir has an active program to manage Solid Waste Management Units (SWMU) and potentially contaminated sites that is conducted in accordance with Army, federal, and state regulations. The following discussions summarize current information about the SWMUs at the McCutchen Road site.

There are residual chemical concentrations present where a chemical storage shed was previously located southwest of Building 2476 (Fort Belvoir, 2017b). This area is identified as SWMU E-02. This unit was first identified as a SWMU during the 1988 Phase II RCRA Facility Assessment (RFA). According to the Phase II RFA, the site consisted of two 55-gallon drums containing waste POL and antifreeze. The drums were reportedly being stored on bare ground behind Building 2476. Sometime between 1988 through 1992, the drums were relocated to a "fire cabinet" containment unit, situated on top of 4-inch wooden beams on an asphalt parking lot along with other storage containers. Additional chemicals such as battery acid, lubricants, and brake fluid were also observed to be stored in the "fire cabinet." This storage site is located southwest of Building 2476. During the 2005 visual site inspection, the fire cabinet and chemical drums were not present. However, numerous other, possibly temporary, storage containers were observed in the vicinity. There were no signs of visible staining. Tenants of the building around the storage site confirmed that Building 2476 had not been used for vehicle maintenance for at least three years.

During the Phase I RCRA Facility Investigation (RFI) conducted at SWMU E-02, two surface soil samples (0.5-2.5 feet below ground surface [bgs]), two subsurface soil samples (2.5-4.5 feet bgs), and one field duplicate sample were collected on October 24, 2008, for the laboratory analysis of metals, VOCs, and semi-volatile organic compounds (SVOCs). The detected concentrations of metals, VOCs, and SVOCs in the soil samples did not exceed the USEPA residential or industrial exposure risk-based concentrations for soil. The range of detected arsenic concentrations was within Fort Belvoir's established background levels. Fort Belvoir recommended no further action was necessary with respect to the SWMU E-02 and USEPA approved this recommendation in a letter dated July 30, 2010. Because residual VOCs, SVOCs, and metals may be present in the site soil, a notation was added to Fort Belvoir's Master Plan for future management of the site.

Accordingly, Fort Belvoir is currently performing additional soil sampling at SWMU MP-14, to further delineate the nature and extent of chemical contaminants in the soil. Results of this investigation were not available at the time this EA was prepared.

Previously, Building 2476 was a motor repair shop used by the National Guard, identified as SWMU L29 (Fort Belvoir, 2017b). Building 2476 was constructed in 1963 and the trench drains and oil/water separator appear to be part of the original design from the construction drawings. At the time of a building inspection in 2005, the building was inactive and was used only for administrative storage space, while the motor repair shop was not being used. The drains appeared to have been cleaned and, according to facility personnel, they had not noticed an odor that previously emanated from the drains since 2003. This SWMU was administratively closed by USEPA on July 6, 2012.

Based on prior and current uses and activities at the McCutchen Road site, there is no reason to suspect that perfluorinated chemicals (commonly referred to as "PFOA/PFAS") are present in soil or underlying groundwater at the site. Should new information be obtained that indicates otherwise, Fort Belvoir would manage and dispose of PFOA/PFAS-contaminated media according to applicable federal and state requirements.

During review of the September 2018 EA in January 2019, VDEQ Division of Land Protection and Revitalization searched solid and hazardous waste databases (including petroleum releases) to identify waste sites within a 1,000-foot radius of the McCutchen Road site. In a letter dated February 15, 2019, VDEQ stated that the search did not identify any waste sites which might impact the project. In addition, a search of the project zip code (22060) did not identify waste sites of possible concern. A copy of this correspondence is included in Appendix A.

3.13.2 Environmental Consequences

3.13.2.1 Threshold of Significance

For the purposes of the hazardous substances impact analysis, effects would be significant if they present a substantial human health or safety risk. Mitigation measures are proposed for any aspect of the action that could release hazardous substances or waste to the environment.

3.13.2.2 Impacts of the Proposed Action.

Construction. Should the results of the investigation of SWMU MP-14 indicate that remediation of environmental media is required, Fort Belvoir would perform and complete the necessary remediation prior to initiation of construction activities for the Proposed Action. However, in the event that cleanup is not fully completed prior to the anticipated construction start date, Fort Belvoir may direct the construction contractor to avoid the contaminated area during construction, until such time that the soil is remediated. This would ensure the health and safety of construction workers would not be at risk from contact with soils from that specific area of the McCutchen Road site.

The Proposed Action would require demolition of the existing buildings. Prior to demolition of the buildings, information from regulated-building material surveys would be used to determine the appropriate federal and state requirements for pre-demolition material handling, demolition waste material transport, and final off-site disposal. Regulated building materials would be abated and managed by licensed workers in accordance with the aforementioned USEPA, OSHA, and Virginia regulations. Additionally, regulated building material waste would be properly transported off-site for disposal at an Army-approved waste facility.

Other construction activities, including site preparation, land grading, and vertical construction, would generate typical construction debris, including asphalt pavement and excess steel and wood. The debris would be removed from the site and disposed of or recycled by the construction contractor at an Army-approved facility. The Army policy requires that 60 percent of the construction waste be diverted from landfills. Fort Belvoir, in an effort to meet the Army's waste diversion standards, requests monthly reports by item description and weight of any materials removed for recycling or reuse by the contractor. Excess soils generated during construction of the 911th EC Complex would not be used as on-site fill material or reused elsewhere at Fort Belvoir

and would be properly disposed of at an Army-approved off-Post permitted waste management facility.

Additionally, all construction contractors would comply with the Army's solid and hazardous materials standard operating procedures (SOP) and management measures where applicable. Other BMPs include performing routine scheduled maintenance and inspections on construction vehicles and equipment to reduce the potential for incidental releases of vehicle and equipment fluids or chemicals to the environment. Spill kits would be maintained to rapidly respond to and limit impacts from accidental releases of equipment fluids or chemicals. Any releases of regulated quantities of regulated chemicals would be reported to the Army and VDEQ and cleanup would occur according to applicable regulatory requirements.

Therefore, demolition of existing buildings and construction of the 911th EC Complex would have a short-term, direct, negligible adverse impact on solid and hazardous materials.

Operation. Once the 911th EC Complex is operational, solid and hazardous materials currently used and stored at other 911th Engineer Company facilities would be transported to the McCutchen Road site. Consolidation of solid and hazardous materials at the McCutchen Road site will require proper storage facilities and containment. Additionally, all requirements for transportation of hazardous materials must be complied with. No change in the type or substantive increases in quantities of these materials compared to current conditions would be required during operation of the Proposed Action.

Wastes generated during operation of the proposed 911th EC Complex would be segregated for off-site recycling or terminal disposal. The anticipated volume of wastes generated during operation would be similar to current amounts generated throughout the different 911th Engineer Company facilities.

Therefore, operation of the Proposed Action would have no impact on solid or hazardous waste management conditions.

3.13.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, Fort Belvoir would continue to assess the SWMU MP-14 and take remedial action if warranted. No other changes to existing conditions at the McCutchen site or other 911th Engineer Company facilities would occur. Therefore, the No Action alternative would have no short-term or long-term, direct or indirect, significant, adverse or beneficial impact to solid and hazardous waste materials.

3.14 Utilities

3.14.1 Affected Environment

Electric

The McCutchen Road site is currently serviced by aboveground electrical distribution systems, with electricity provided by Dominion-Virginia Power. The transformer substation serving the site is located approximately 2.5 miles to the northeast. Electricity is currently distributed to the site via pole-mounted overhead electrical transmission lines, which enter the site along the northern border on Backlick Road.

Potable Water

Potable water is supplied to the McCutchen Road site from a 6-inch diameter main on Backlick Road. The water is provided by American Water.

It is also noted there are no public groundwater wells within a 1-mile radius of the site; no surface water intakes within a 5-mile radius of the site; and the site is not within a watershed of any public surface water intake.

Sanitary Sewer

The sanitary sewer lines at the site are operated by Fort Belvoir. Sanitary sewerage is conveyed by gravity from the site through an existing underground 6-inch diameter line, which eventually reaches the Lower Potomac Regional Sewage Plant operated by Fairfax County Public Works and Environmental Services.

Communications

Telecommunication services are provided to the McCutchen Road site through aboveground transmission lines. Telecommunication systems are provided by and owned by Fort Belvoir.

Natural Gas

Natural gas service is provided to the McCutchen Road site through underground transmission lines on Backlick Road. Natural gas is provided by Washington Gas.

3.14.2 Environmental Consequences

3.14.2.1 Threshold of Significance

An alternative could have a significant effect on utility infrastructure if it would increase demand over capacity, requiring a substantial system expansion or upgrade, or if it would result in substantial system deterioration over the current condition.

3.14.2.2 Impacts of the Proposed Action.

Electric

Construction and Operation. The existing overhead electric lines and utility poles at the McCutchen Road site would be removed during construction. These would be replaced with new lines extending from Backlick Road. It is anticipated that operating the proposed 911th EC Complex would consume 450,859 kilowatt hours per year (Fort Belvoir, 2017a). This utilization rate would not be anticipated to decrease services levels to other customers served by Dominion-Virginia Power. Additionally, no upgrades to the existing substation are anticipated to be required.

During operation, there would continue to be minimal night-time security lighting on the site. This proposed lighting would be directed inward toward targeted areas, thereby avoiding any potential nuisance impacts to nearby residential receptors and passersby. Additionally, energy-efficient HVAC and insulation systems installed during construction would be maintained to reduce operational energy consumption.

Potable Water

Construction and Operation. Existing water lines would be demolished during construction. These lines would be replaced with a new 6-inch ductile iron line and a new 2-inch rigid polyvinyl chloride (RPVC) line connected to the water main on Backlick Road.

The 911th EC Complex would be designed to follow applicable fire code requirements, including UFC 3-600-01. Because of flow issues, fire pumps would be required at the McCutchen Road site. One fire hydrant would be required for each building within the site. Additionally, a fire hydrant would be located within 150 feet of the fire department connection. Fire department access within 33 feet of all buildings would be required. The fire department would also have access to any new gate features at the McCutchen Road site.

During operation, the estimated average water consumption rate would be approximately 15,000 gallons per day, based on water used for personal hygiene and equipment maintenance. Continued availability of water is expected during construction and operation (Fort Belvoir, 2017a). This utilization rate would not be anticipated to decrease services levels to other customers served by American Water.

Following review of the September 2018 EA in January 2019, the VDEQ Department of Health, Office of Drinking Water issued a letter dated February 15, 2019, concluding that there are no apparent impacts to public drinking water sources due to the Proposed Action.

Sanitary Sewer

Construction and Operation. Existing sanitary sewer lines would be demolished during construction. These would be replaced with new lines that would extend to the existing sewer main.

The operational sanitary sewerage volume is not anticipated to decrease services levels to other customers served by the Fairfax County Public Works and Environmental Services.

Telecommunications

Construction and Operation. Existing overhead telecommunications cables would be removed during construction. These would be replaced with new cables.

During operation, utilization of telecommunications services would not be anticipated to decrease services levels to other customers served by Fort Belvoir.

Natural Gas

Construction and Operation. During construction, a new gas line and meters would be installed at the new facility.

During operation, the use of natural gas would not be anticipated to decrease service levels to other customers served by Washington Gas.

Therefore, during construction and operation of the Proposed Action, there would be no short-term or long-term, direct or indirect, significant adverse impacts to utilities.

3.14.2.3 Impacts of the No Action Alternative.

The No Action alternative would require no changes to the utilities servicing the McCutchen Road site, and no changes to utilization rates. Therefore, under the No Action alternative, there would be no short-term or long-term, direct or indirect, significant adverse or beneficial impacts to utilities.

3.15 Environmental Justice

3.15.1 Affected Environment

Population data are important in determining the presence of Environmental Justice populations. EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs all federal departments and agencies to incorporate environmental justice considerations in achieving their mission. CEQ provides guidance on EO 12898 by stating that "minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis" (CEQ 1997).

Each federal department or agency is to accomplish this by conducting programs, policies, and activities that substantially affect human health or the environment in a manner that does not exclude communities from participation in, deny communities the benefits of, nor subject communities to discrimination under such actions because of their race, color, or national origin.

The ROI for analysis of the environmental justice topic is Accotink Village, Fort Belvoir Census-Designated Place (CDP), Fairfax County, and Virginia. Selected relevant demographic information is summarized in Table 14.

The federal annual income poverty threshold in 2017 was an average of $12,060 for a one-person household, or $24,600 for a 4-person household, according to the U.S. Department of Health and Human Services.

The population whose income in the past 12 months falls below the poverty level was 54.4% in Accotink Village, 2.3% in the Fort Belvoir CDP, 6.0% in Fairfax County, and 11.4% in Virginia for the years 2012-2016 (based on the American Community Survey [ACS]) (U.S. Census Bureau, 2018). These percentages describe the number of income earners who fall below the poverty level out of the total income earners in a given ROI.

The percentage of children under age 5 was 7.4% in Accotink Village, 15.6% in the Fort Belvoir CDP, 6.6% in Fairfax County, and 6.1% in Virginia for the years 2012-2016 (U.S. Census Bureau, 2018).

Minority populations were 30.6% in the Fort Belvoir CDP, 33.2% in Fairfax County, and 28.4% in Virginia for the years 2012-2016 (U.S. Census Bureau, 2018). In contrast, the minority population was 73% of the 337 residents in Accotink Village (US Census Bureau, 2018). Based on EO 12898, Accotink Village qualifies as an Environmental Justice community on the basis of its minority population.

Table 14. Demographic Information

Location	Accotink Village (census tract 421900-3)	City Fort Belvoir CDP	Fairfax County	Virginia
Population	333-337	8,230	1,128,722	8,412,000
Demographic Index	70%	43%	31%	32%
Minority Population	73%	30.6%	33.2%	28.4%
Low Income Population	54.4%	2.3%	6.0%	11.4%
Linguistically Isolated Population	0%	0%	7%	3%
Population with Less Than High School Education	3%	1%	8%	12%
Population under Age 5	7.4%	15.6%	6.6%	6.1%
Population over Age 64	2%	0%	11%	13%

Source: ACS 2012-2016, US Census Bureau, 2018

3.15.2 Environmental Consequences

3.15.2.1 Threshold of Significance

An impact to environmental justice is deemed significant if the action would result in disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.

3.15.2.2 Impacts of the Proposed Action.

Construction. Accotink Village is adjacent to the eastern boundary of the McCutchen Road site. Residents of Accotink Village are most likely to be aware of the proposed 911th EC Complex construction project due to proximity. However, dense vegetation (approximately 100-450 feet in width) is present between the McCutchen Road site and Accotink Village. Therefore, construction of the Proposed Action would not disproportionally impact the aesthetics for residents of Accotink Village due to this dense vegetation, which obscures the view of the site. While construction of the Proposed Action would temporarily generate noise from routine construction practices, these noise levels would not exceed the Fairfax County noise ordinance for routine construction nor result in a significant adverse impact to the residential receptors in Accotink Village; any potential adverse impacts would be further minimized through the implementation of construction noise BMPs; the distance between the site and the receptors; and other noises from DAAF and traffic on Richmond Highway that dominate the noise environment. Construction vehicles are not anticipated to travel on the eastern portion of Backlick Road that passes through Accotink Village, further avoiding potential adverse impacts on traffic. Demolition and construction activities associated with Proposed Action would not disproportionately impact air quality for those in Accotink Village, as air emissions would be lower than GCR *de minimis* levels (further discussed in Section 3.4). Additionally, all aforementioned BMPs for previous sections would be followed to ensure that no disproportionately high adverse impacts occur to the environmental justice community of Accotink Village. Therefore, construction of the Proposed Action would not have a disproportionately adverse impact on this environmental justice community.

Operation. Operation of the Proposed Action would include noises not currently generated at the McCutchen Road site, most notably jackhammering during scheduled 911th Engineer Company training activities at the proposed RTA. Noise from jackhammering is the predominant cause for concern during operation, as this noise may have a disproportionate nuisance to residents of Accotink Village. To minimize this adverse impact, jackhammering would only be performed during limited daytime hours for 30 to 50 days per year; residents would be informed of the training schedule; and Fort Belvoir Public Affairs Office would continue to take and respond to reports of noise concerns. Should further noise management be required, the location of the proposed RTA location may be adjusted, and noise shields may be utilized during loud training activities. Therefore, operation of the Proposed Action would not have a disproportionately adverse impact on this environmental justice community.

3.15.2.3 Impacts of the No Action Alternative.

Under the No Action alternative, current activities at the McCutchen Road site would remain unchanged. These activities do not currently have an adverse impact on environmental justice communities. Therefore, under the No Action alternative there would be no short-term or long-term, direct or indirect, significant, adverse or beneficial impacts to environmental justice.

3.16 Cumulative Impacts

As defined by CEQ Regulations in 40 CFR 1508.7, a cumulative impact is that which "results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." NEPA requires the lead federal agency to consider the cumulative environmental effect of a proposed action. Cumulative impacts can result from individually minor but collectively significant actions expected to occur in a similar location and during a similar time period.

The Proposed Action considered in this EA was included as one of 75 short-term and long-term projects evaluated in the 2015 EIS for Short-term Projects and Real Property Master Plan Update at Fort Belvoir (U.S. Army, 2015). The impact analysis for the long-term projects in the 2015 EIS was "broadly conceptual in nature" and further NEPA analysis was required. Fifty-two short-term projects and four stand-alone transportation improvement projects were analyzed at the full implementation level. The 2015 EIS included an extensive cumulative impact analysis that concluded the implementation of the master plan, including the proposed 911th EC Complex, a short-term project, would result in no significant adverse cumulative impacts on any resources, with the exception of transportation. Potential impacts on transportation, to which the proposed complex would be a very small contributor, were addressed and mitigated through the 2015 EIS.

Several projects recently completed at DAAF were not included in the 2015 cumulative impact analysis. These include:

Davison Army Airfield Hazardous Tree Removal Project. This project consisted of clearing trees that created hazardous obstructions to aviation operations in and around the airfield. Trees would be removed from five sections of DAAF: 24 trees in the Northeast Section, 8 trees in the West Section, 2.5 acres of tree removal in the Northwest Section, 9.2 acres of tree removal in the

Southwest Section, and 4.7 acres of tree removal in the Southeast Section. An EA was completed for this action in 2016.

Communications Line Extension Project. This project would construct an underground communication duct bank to provide telecommunications connectivity to DAAF from Fort Belvoir. The total distance of the proposed duct bank alignment is approximately 10,700 feet and a portion of the duct bank would cross under Accotink Creek within the Accotink Bay Wildlife Corridor. An EA was completed for this project in 2017.

Davison Army Airfield Grading Project. The purpose of this project was to grade the runway and taxiway safety areas in compliance with regulatory guidance. Terrain surrounding the runway was graded and cleared of surface irregularities, while obstructions located in the graded part of the clear zone (e.g., Runway Visual Range towers and fire hydrants) were removed. A Record of Environmental Consideration for this project was prepared in 2012.

Additionally, the Army is in the process of preparing an EIS for the implementation of the recently completed Area Development Plan (ADP), which would include multiple demolition, construction, renovation, and infrastructure improvement projects.

Based on the known or anticipated potential impacts of these past and reasonably foreseeable projects at DAAF, when considered in conjunction with the Proposed Action, there would be additional cumulative impacts on tree cover and possibly stormwater due to a potential increase in impervious surfaces from the proposed ADP implementation; however, analysis for this action has not yet been completed.

While the Airfield Hazardous Tree Removal Project contributed approximately 17 acres of tree cover loss to cumulative impacts on trees at Fort Belvoir, all tree clearing is mitigated in compliance with the Fort Belvoir Tree Removal and Protection Policy, which ensures that no significant cumulative loss of trees occurs on the post. Similarly, projects at Fort Belvoir are subject to Section 438 of the EISA, which ensures no significant cumulative impacts on stormwater runoff and water quality. None of the past and future DAAF projects involve significant increases in personnel, and therefore, these projects would have no impacts on transportation in addition to those taken into consideration in the 2016 EIS. Overall, when considered along with past, present, and reasonably foreseeable projects at Fort Belvoir, the Proposed Action is not anticipated to result in significant adverse cumulative impacts.

3.17 Conclusions

A summary of the environmental impacts associated with the Proposed Action and the No Action alternative is presented in Table 15. These impacts represent a subjective rating that is representative of:

- Quality/uniqueness of the resources affected
- Intensity and duration of the impact
- Potential to minimize the impact through mitigation.

As discussed in detail in the preceding sections of this EA, the implementation of the Proposed Action is not anticipated to result in significant adverse impacts on the quality of the built and natural environment.

Table 15. Summary of Impacts for the Proposed Action and the No Action Alternative

Resource Area	Proposed Action	No Action Alternative
Aesthetics	Short-term, direct, negligible, adverse impact from construction activities. Long-term, direct, negligible, beneficial impacts from new, modern facility consistent with UFC standards.	Long-term, direct, negligible, adverse impacts due to continued deterioration of existing buildings.
Air Quality	Short-term, direct, minor, adverse impact from construction equipment emissions.	No Impacts
Cultural and Historic Resources	No Impacts	No Impacts
Transportation and Parking	Short-term and long-term, direct, negligible adverse impacts to transportation due to minor traffic increases on local roadways from construction vehicles and operational staff vehicles.	No Impacts
Water Resources	Potential for minor impacts to surface water due to construction affecting nearby ephemeral stream. Minor, indirect impacts to water quality and wetlands from increased soil erosion and sedimentation, which would be minimized through compliance with applicable permitting requirements. Minor adverse impacts on the RPA due to vegetation clearing. Negligible impacts to groundwater recharge from the increase in impervious surfaces.	No Impacts
Land Use	No Impacts	No Impacts
Geology, Topography, and Soils	No impacts to geology and topography. Minor impacts to soil due to potential erosion and sedimentation from soil surface disturbance during construction activities.	No Impacts
Biological Resources	Long-term, moderate but less-than-significant adverse impacts to vegetation and wildlife habitat from tree clearing and loss of forest cover. Impacts would be minimized by maintaining existing trees during operation and through implementation of mitigation measures, such as tree replanting in accordance with Fort Belvoir's Tree Removal and Protection Policy and compliance with time-of-year restrictions for northern long-eared bats.	No Impacts
Noise	Short-term and long-term, direct, negligible adverse impacts to noise conditions from construction equipment, operational equipment and training exercises, and staff vehicle travel on local roadways.	No Impacts
Socioeconomics	Minor beneficial impacts due to the employment of local construction workers and purchasing of materials from local vendors.	No Impacts

Resource Area	Proposed Action	No Action Alternative
Community Services	Negligible short-term impacts to community services (police, fire/emergency response) due to potential construction-related accidents. Long-term, beneficial impact by enhancing 911th Engineer Company support service response times within the NCR.	Adverse impact on 911th Engineer Company response times within the NCR.
Solid and Hazardous Materials	Negligible impacts associated with demolition of asbestos-containing materials and lead-based paint present at existing buildings. Other regulated building materials identified during a predemolition survey would be managed and disposed of per applicable federal and state regulations.	No Impacts
Utilities	No Impacts	No Impacts
Environmental Justice	No Impacts	No Impacts

4.0 Management and Mitigation

4.1 Unavoidable Adverse Impacts

Unavoidable adverse impacts would result from implementation of the Proposed Action when added to the aggregate effects of other past, present, and reasonably foreseeable future actions, and are not anticipated to be significant. The Proposed Action would result in moderate adverse impacts to biological resources from clearing approximately 2 acres of forest during construction, which would be mitigated through adherence to Fort Belvoir's Tree Removal and Protection Policy by applying the aforementioned 2:1 or 1:1 ratio for tree and shrub planting and clearing.

Potential minor adverse impacts that would occur from implementation of the Proposed Action include:

- Minor adverse impacts to air quality from equipment used during construction of the Proposed Action
- Minor impacts to surface waters from construction in or adjacent to a potentially jurisdictional ephemeral stream
- Minor impacts to water quality from soil erosion and sedimentation during ground-disturbing activities
- Minor impacts to wetlands from construction and operation
- Minor impacts to resource protection areas (RPAs) from construction activities near wetland areas to the west and south of the project site
- Minor impacts to soil from construction activities that could be mitigated through the use of an ESC plan
- Minor impacts to solid and hazardous materials due to the removal of asbestos containing materials, lead based paint, and solid wastes, and to the increase in solid waste production from the operation of the Proposed Action, which could be mitigated through proper removal and safety procedures

The Proposed Action would result in negligible adverse impacts to aesthetics (construction), transportation (construction and operation), groundwater (construction and operation), noise (construction and operation), community services (specifically police and fire during construction), and solid and hazardous material (construction).

The Proposed Action would result in no impacts to cultural and historic resources, land use, floodplains, coastal zone management, geology, topography, utilities, and environmental justice. No significant temporary or cumulative impacts are anticipated. No significant impacts on human health or the environment are expected to result from the Proposed Action.

4.2 Best Management Practices and Impact Minimization Measures

As discussed in detail in Section 3, the best management practices (BMPs), impact minimization techniques, required commitments, and monitoring opportunities to maintain the impacts of the Proposed Action at less-than-significant adverse levels are summarized below.

AESTHETICS
Construction
Control fugitive dust emissions through routine construction BMPs, including using water trucks to prevent dust emissions, and installing temporary gravel-over-filter cloth construction pad at the construction site exit to remove dirt from the tires of vehicles before leaving the Proposed Action construction site.
Erect temporary privacy fence around the construction zone and maintain the existing vegetative buffers around the perimeter of the 911th EC Complex construction site.
Operation
Routine and scheduled professional landscape maintenance to ensure the upkeep of the grounds and associated physical infrastructure.
AIR QUALITY
Construction
Implement aforementioned dust suppression methods to include application of water, construction scheduling, and maintaining limited and decreased on-site vehicle speed limits.
Stabilize exposed soil with vegetation or mulching to minimize erosion and subsequent dust generation.
Construction vehicles will travel on paved roads within Fort Belvoir and vicinity at speeds at or below posted limits. This will minimize dust generated by vehicles and equipment on paved surfaces. On unpaved surfaces at the site, vehicle speeds will be maintained at or below 5 miles per hour to prevent dust generation of exposed soil.
Visually monitor all construction activities on a daily basis, and particularly during extended periods of dry weather; implement additional dust control measures as needed.
Limit unnecessary construction vehicle idling; do not idle engines for more than five consecutive minutes.
CULTURAL RESOURCES
Construction
Stage construction equipment at the project site to ensure equipment is not operated or parked within Site 44FX1810.
Notify Catawba Indian Nation (and any other Tribes, as applicable) if Native American artifacts and/or human remains are inadvertently located during ground disturbing activities.
TRANSPORTATION AND PARKING
Construction
To the extent practicable, access the McCutchen Road site from the intersection of Backlick Road and Fairfax County Parkway, thereby avoiding travel on the eastern portion of Backlick Road that passes through the residential neighborhood to the east of the site.

Establish a gravel-over-filter cloth construction pad at the exit of the construction area to ensure dirt is removed from construction vehicle tires before traveling on area roadways.
Operation
Operational staff would follow posted speed limits while traveling on Backlick Road.
WATER RESOURCES
Construction
Prior to construction, submit a joint application for and receive a CWA 404/401 permit for potential surface water impacts to the ephemeral stream channel.
Develop and adhere to an erosion and sediment control (ESC) plan to avoid and minimize erosion and sedimentation of stormwater runoff, to include measures such as silt fencing, synthetic hay bales, and temporary sediment traps. Additionally, adhere to Fort Belvoir's current MS4 Permit (VAR040093).
Develop and adhere to a stormwater management (SWM) plan to be reviewed and approved by Fort Belvoir's DPW and VDEQ.
Design the 911th EC Complex to comply to the maximum extent technically feasible with EISA Section 438. Incorporate low-impact development (LID) measures in the design of the 911th EC Complex including installing vegetated swales between parking lots instead of curb and gutter or establishing one or more rain gardens to the extent practicable.
Implement flagging and barriers to clearly mark wetland areas to be avoided.
Replace vegetation removed from the RPA consistent with the Virginia Department of Conservation and Recreation's *Riparian Buffers Modification and Mitigation Guidance Manual* and applicable Fort Belvoir Draft Guidance.
Operation
Include measures to avoid and minimize potential contamination of stormwater in the 911th EC Complex's final design, including, but not limited to, oil/water separators for drains that could be exposed to petroleum products and sufficient secondary containment for chemical and hazardous materials.
GEOLOGY, SOILS, AND TOPOGRAPHY
Construction
Develop a soil erosion and sediment control (ESC) plan for approval by the Army and prior to conducting any work.
Install and maintain sedimentation and erosion control measures specified in the SESC, including the use of silt fencing, synthetic hay bales, specified loading and unloading areas; covering exposed soils during anticipated storm events; and revegetating soils with temporary and/or permanent non-invasive vegetation as soon as construction conditions allow.
Implement measures to prevent dust emissions from disturbed soil within the site construction area and on construction vehicles leaving and entering the construction area.
Revegetate disturbed areas as soon as construction is completed. Use native, non-invasive vegetation. Professionally maintain vegetation during operation.

Adhere to the terms of the VDEQ VPDES regulations, §9 VAC 25-870-54 Stormwater Pollution Prevention Plan Requirements, and *the Virginia Stormwater Management Act*.
Operation
Conduct routine landscaping to ensure soil remains vegetated and stabilized to prevent erosion.
BIOLOGICAL RESOURCES
Construction
Adhere to Fort Belvoir's Tree Removal and Protection Policy by applying the 2:1 ratio (trees ≥4-inches DBH) or 1:1 ratio (trees <4-inches DBH, shrubs ≥3-feet high) for tree and shrub planting and clearing. Coordinate with Fort Belvoir natural resources program staff to ensure only native, non-invasive vegetation is used.
Comply with time-of-year restrictions (TOYR) to minimize any potential impacts to the northern long-eared bat and wood turtle. Tree clearing would only be conducted between September 15 and April 15, in accordance with northern long-eared bat TOYR. Adhere to the TOYR for clearing within 900 feet of a stream between April 1 and September 30 to minimize impacts to the wood turtle.
Conduct a sweep of the project site by trained conservation staff immediately prior to land clearing activities to capture and relocate any wood turtle species that may be found in the development area. Additionally, prior to the commencement of work, all contractors shall be made aware of the possibility of encountering wood turtles on site and become familiar with their appearance, status, and life history. If any wood turtles are encountered and are in jeopardy during the development or construction of this project, the conservation staff shall immediately remove them from danger and move them safely to suitable habitat in or near the closest perennial stream. Any relocations shall be reported to the DGIF Region I Terrestrial Biologist and documented on the VDGIF wood turtle observation form.
NOISE
Construction
Schedule construction activities to minimize impacts to nearby residential areas by performing construction work during weekday, daytime hours.
Equip construction vehicles with noise-dampening equipment including mufflers which would be operated according to the manufacturers' instructions.
Turn construction vehicles off when not in use.
Comply with OSHA requirements for worker protection for work near loud construction equipment.
Maintain vegetated borders surrounding the McCutchen Road site, which act as natural sound barriers between the site and abutting residences.
Operation
Notify abutting residents in advance of training activities.
Conduct training on weekdays during daytime hours between 09:00 and 15:30.

To the extent practical, place concrete slabs, which can act like a noise shield to reduce sound levels by approximately 3 dBA, around the location of jackhammer training and break the line of sight to residential receptors.
Reiterate to residents the ability to report a noise complaint to the Fort Belvoir Public Affairs Office at usarmy.belvoir.imcom-atlantic.mbx.public-affairs-office@mail.mil.
COMMUNITY SERVICES
Construction
Use of safety equipment (i.e., hard hats, reflective vests, hearing protection); maintain safety equipment in good condition and proper working order; and obtain special training before entering an industrial or potentially hazardous site.
Operation
Install and maintain appropriate number of fire pumps according to UFC 3-600-01.
SOLID WASTE AND HAZARDOUS MATERIALS
Construction
Remove regulated building materials in compliance with USEPA, OSHA, and Virginia regulations, and transport and dispose of waste at an Army-approved waste facility.
Ensure at least 60 percent of the construction waste is diverted from landfills.
Reutilize excavated soils on-site in accordance with site design specifications. Utilize excess soils off-site.
Perform routine scheduled maintenance and inspections on construction vehicles and equipment to reduce the potential for incidental releases of vehicle and equipment fluids or chemicals to the environment.
Maintain spill kits to rapidly respond to and limit impacts from accidental releases of equipment fluids or chemicals. Report releases of regulated quantities of regulated chemicals to the Army and VDEQ. Perform cleanup according to applicable regulatory requirements.
Operation
Manage solid wastes in designated areas and establish routine pickup and disposal to appropriate landfill facilities by qualified vendors.
Solid and hazardous waste would be managed in accordance with the Army's solid and hazardous materials SOPs and the VDEQ requirements for short-term storage and containment.
UTILITIES
Operation
Maintain energy-efficient HVAC and insulation systems installed during construction to reduce operational energy and water consumption.
Direct night-time security lighting inward toward targeted areas to avoid potential nuisance impacts to nearby residential receptors and passersby.

ENVIRONMENTAL JUSTICE
Construction and Operation
Follow all aforementioned BMPs to ensure no disproportionately high adverse impacts to the environmental justice community of Accotink Village.

4.3 Permits and Other Requirements

The construction contractor would be required to obtain the following permits and meet the following requirements prior to beginning construction on the proposed 911th EC Complex:

- Section 404/401 permitting under the *Clean Water Act* for the potentially jurisdictional ephemeral stream in the southwest portion of the project site. The joint application submittal would include review by VDEQ under the VWP permit program.
- MS4 Permit VAR040093 compliance to minimize soil erosion and sedimentation into nearby water bodies.
- Compliance with Section 438 of the EISA for projects with a footprint larger than 5,000 square feet through the incorporation of LID measures in the project design to ensure the Proposed Action does not result in an increase in stormwater runoff.
- Coverage under VPDES Permit VA0092771 or MS4 permit and adherence to sampling requirements if the facility involves outside maintenance activities or outside storage potentially exposed to rain events.
- Consultation with VDGIF and Fort Belvoir environmental management staff to identify potential impact avoidance measures that would allow for development to occur within the 300-foot vegetated stream buffer while avoiding "take" of the wood turtle or significant degradation of wood turtle habitat.
- Dig Permit from Fort Belvoir's DPW before the beginning of ground-disturbing operations. DPW reviews the permit application to ensure that the project is in compliance with applicable laws and regulations.

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6.0 Acronyms and Abbreviations

ACM	Asbestos-Containing Materials
ACS	American Community Survey
ADP	Area Development Plan
amsl	Above Mean Sea Level
APHC	US Army Public Health Center
APE	Area of Potential Effects
AQCR	Air Quality Control Region
ASHA	American Speech-Language-Hearing Association
AST	Above-ground Storage Tank
BGEPA	Bald and Golden Eagle Protection Act
bgs	Below Ground Surface
BMP	Best Management Practice
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CBPA	Chesapeake Bay Preservation Area
CDP	Census-Designated Place
CEQ	Council on Environmental Quality
CENAB	USACE Baltimore District
CFR	Code of Federal Regulations
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COF	Company Operations Facility
CRMP	Coastal Resources Management Program
CZM	Coastal Zone Management
CWA	Clean Water Act
DAAF	Davison Army Airfield
dB	Decibels
dBA	"A"-weighted Decibels
DBH	Diameter at Breast Height
DC	District of Columbia
DDM	Discarded Military Munitions
DHR	Department of Historic Resources
DNL	Day-Night Average Sound Level
DOD	Department of Defense
DPW	Department of Public Works
EA	Environmental Assessment
EC	Engineer Company
EIS	Environmental Impact Statement

EISA	Energy Independence and Security Act
EMCS	Energy Monitoring Control System
ENRD	Environmental and Natural Resources Division
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
ESC	Erosion and Sediment
FBNA	Fort Belvoir North Area
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FUDS	Formerly Used Defense Site
GCR	General Conformity Rule
GHGs	Greenhouse Gases
GPD	Gallons per day
GSF	Gross Square Foot
GWP	Global Warming Potential
HFC	Hydrofluorocarbon
HVAC	Heating and Cooling
HWMP	Hazardous Waste Management/ Waste Minimization Plan
IDS	Intrusion Detection Systems
IRP	Installation Response Program
LBP	Lead-Based Paint
LID	Low Impact Development
MBTA	Migratory Bird Treaty Act
MC	Munitions Constituents
MD	Maryland
MEC	Munitions and Explosives of Concern
MEVA	Mission Essential Vulnerable Area
MMRP	Military Munitions Response Program
MWCOG	Metropolitan Washington Council of Governments
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NCR	National Capital Region
NEPA	National Environmental Policy Act
NESHAP	National Emission Standard for Hazardous Airborne Pollutants
NHPA	National Historic Preservation Act
NIOSH	National Institute for Occupational Safety and Health
NOI	Notice of Intent
NOx	Nitrous Oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

NSF	Nominal Square Footage
O_3	Ozone
OSHA	Occupational Safety and Health Administration
OTR	Ozone Transport Region
OWS	Oil/Water Separator
Pb	Lead
PCBs	Polychlorinated Biphenyls
PFC	Perfluorocarbon
PFOA/PFAS	Per- and Polyfluoroalkyl Substances
PM	Particulate Matter
POL	Petroleum, Oil, and Lubricants
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RMA	Resource Management Area
ROI	Region of Interest
RONA	Record of Non-Applicability
RPA	Resource Protection Area
RPVC	Rigid Polyvinyl Chloride
SCAQMD	South Coast Air Quality Management District
SF	Square feet/square footage
SF_6	Sulfur Hexafluoride
SHPO	State Historic Preservation Office
SIP	State Implementation Plans
SO_2	Sulfur Dioxide
SOP	Standard Operation Procedure
SVOC	Semi-Volatile Organic Compounds
SWM	Stormwater Management
SWMU	Solid Waste Management Unit
SWPPP	Stormwater Pollution Prevention Plan
TEMF	Tactical Equipment Maintenance Facility
TMDL	Total Maximum Daily Load
TOYR	Time-of-Year Restriction
U.S.	United States
UFC	Unified Facilities Criteria
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UXO	Unexploded Ordnance

VA	Virginia
VAC	Virginia Administrative Code
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VOC	Volatile Organic Compound
VPDES	Virginia Pollution Discharge Elimination System
VSMP	Virginia Stormwater Management Program
VWP	Virginia Water Protection

Appendix A
Agency Coordination

Notice of Availability for the September 2018 Environmental Assessment and Draft Finding of No Significant Impact

Drug Take Back Initiative Nets a Ton of Medications

Fairfax County Police Department reported that the Drug Take Back Initiative was a huge success again this year: Fairfax County residents turned in a ton of medications – literally. More than 2,200 pounds of medications were collected at the events throughout the county.

BREAKDOWN:

- ❖ West Springfield District Station – 473 pounds
- ❖ McLean District Station – 351 pounds
- ❖ Fair Oaks District Station – 297 pounds
- ❖ Mason District Station – 279 pounds
- ❖ Station – 247 pounds
- ❖ Franconia District Station - 223 pounds
- ❖ Reston District Station – 221 pounds
- ❖ Sully District Station – 183 pounds

Total: 2,274 pounds

If you missed the event, you can still dispose of your unneeded medication at the drop box in the lobby of the West Springfield District Station (6140 Rolling Road in Springfield).

It's open 24/7, and any unused prescriptions can be dropped off anonymously (pills or liquids only; no pressurized canisters or needles) - according to FCPD Media Relations Bureau.

Photo courtesy FCPD Media Relations Bureau

More than 2,200 pounds of medications were collected at the events throughout the county.

Legals

Legals

NOTICE OF AVAILABILITY FOR THE ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO SIGNIFICANT IMPACT FOR THE PROPOSED CONSTRUCTION AND OPERATION OF THE 911TH ENGINEER COMPANY COMPLEX FORT BELVOIR, VIRGINIA

The U.S. Army Garrison Fort Belvoir hereby gives Notice of the Availability (NOA) for the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for the proposed construction and operation of the 911th Engineer Company Complex (911th EC Complex). The proposed location of the 911th EC Complex is an approximately 10-acre site located north of Route 1 (Richmond Highway) between the Fairfax County Parkway and Accotink Village, on the North Post of Fort Belvoir in Fairfax County, Virginia. The proposed 911th EC Complex would allow for the consolidation of the currently geographically separated and inadequately sized facilities utilized by the 911th Engineer Company. The Proposed Action would involve the construction of a medium-sized Tactical Equipment Maintenance Facility, an organizational equipment storage building, organizational vehicle storage, petroleum/oil/lubricants storage buildings, a hazardous waste storage building, a company operations facility, and an outdoor organizational vehicle parking area. The Proposed Action would allow the 911th Engineer Company to properly train for and more rapidly respond to emergency events with efficiency of operations and proper mission readiness.

The EA has been prepared in accordance with the regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA), (Public Law 91-190, 42 USC 4321-4347 January 1, 1970), amendments, and the Army's Implementing Regulations (32 CFR Part 651, Environmental Analysis of Army Actions). The EA is available to view/download electronically at http://www.belvoir.army.mil/environdocssection2.asp, or view in printed form at the Lorton Branch, Kingstowne Branch, and Sherwood Regional Branch of the Fairfax County Public Library system.

Comments or questions on the EA and Draft FNSI may be directed in writing to: Mr. Felix Mariani, Chief, Environmental Division, Directorate of Public Works, Building 1442, 9430 Jackson Loop, Fort Belvoir, VA 22060, or by email to: usarmy.belvoir.imcom-atlantic.mbx.enrd@mail.mil. Comments must be received no later than 30 days after publication of this NOA.

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ACCOUNT NAME: **Mabbett & Associates, 10 Dorrance Street, Suite 700, Providence, RI 02903/Environmental Assessment Fort Belvoir, Virginia**

INVOICE:	**532788**
AD PLACED BY:	**Andrew Gluckman**
ORDER DATE:	**November 1, 2018**
SCHEDULED TO RUN:	**November 8, 2018**
HEADER:	**CLASSIFIED: LEGAL**
CLASSIFICATION	**CLASSIFIED: LEGAL**
SIZE:	**2 x 6**
RATE:	**$230.00**
TOTAL:	**$230.00**
EXTRA CHARGE:	
TOTAL AMOUNT DUE:	**$0.00**

CERTIFICATE OF PUBLICATION

I hereby certify that the attached advertisement for **Mabbett & Associates, 10 Dorrance Street, Suite 700, Providence, RI 02903/Environmental Assessment Fort Belvoir, Virginia** *was published in the Springfield CONNECTION NEWSPAPER for 1 successive issues commencing with the issue of November 8, 2018.*

John Keating: _____

JOHN KEATING NOTARY PUBLIC REG. # 7727854 COMMISSION EXPIRES 5/31/2021 COMMONWEALTH OF VIRGINIA

Ad # 12216859 Name MABBETT & ASSOCIATES INC Size 90 Lines T0003
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PROOF OF PUBLICATION

District of Columbia, ss., Personally appeared before me, a Notary Public in and for the said District, Sandra Broadstone well known to me to be ASSISTANT MANAGER BILLING of The Washington Post, a daily newspaper published in the City of Washington, District of Columbia, and making oath in due form of law that an advertisement containing the language annexed hereto was published in said newspaper on the dates mentioned in the certificate herein.

I Hereby Certify that the attached advertisement was published in The Washington Post, a daily newspaper, upon the following date(s) at a cost of $492.60 and was circulated in the Washington metropolitan area.

Published 1 time(s). Date(s):08 of November 2018

Account 2010275913

Sandra Broadstone

Witness my hand and official seal this 8th day of November 20 18

My commission expires 10/31/2019

NOTICE OF AVAILABILITY FOR THE ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED CONSTRUCTION AND OPERATION OF THE 911TH ENGINEER COMPANY COMPLEX FORT BELVOIR, VIRGINIA The U.S. Army Garrison Fort Belvoir hereby gives Notice of the Availability (NOA) for the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for the proposed construction and operation of the 911th Engineer Company Complex (911th EC Complex). The proposed location of the 911th EC Complex is an approximately 10-acre site located north of Route 1 (Richmond Highway) between the Fairfax County Parkway and Accotink Village, on the North Post of Fort Belvoir in Fairfax County, Virginia. The proposed 911th EC Complex would allow for the consolidation of the currently geographically separated and inadequately sized facilities utilized by the 911th Engineer Company. The Proposed Action would involve the construction of a medium-sized Tactical Equipment Maintenance Facility, an organizational equipment storage building, organizational vehicle storage, petroleum/oil/lubricants storage buildings, a hazardous waste storage building, a company operations facility, and an outdoor organizational vehicle parking area. The Proposed Action would allow the 911th Engineer Company to properly train for and more rapidly respond to emergency events with efficiency of operations and proper mission readiness. The EA has been prepared in accordance with the regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA), (Public Law 91-190, 42 USC 4321-4347 January 1, 1970), amendments, and the Army's Implementing Regulations (32 CFR Part 651, Environmental Analysis of Army Actions). The EA is available to view/download electronically at http://www.belvoir.army.mil/environdocssection2.asp, or view in printed form at the Lorton Branch, Kingstowne Branch, and Sherwood Regional Branch of the Fairfax County Public Library system. Comments or questions on the EA and Draft FNSI may be directed in writing to: Mr. Felix Mariani, Chief, Environmental Division, Directorate of Public

Works, Building 1442, 9430 Jackson Loop, Fort Belvoir, VA 22060, or by email to: usarmy.belvoir.imcom-atlantic.mbx.enrd@mail.mil. Comments must be received no later than 30 days after publication of this NOA.

Photos by Andrea Worker/The Gazette

U.S. Sen. Mark Warner (D-Va.) attended the service at Temple Rodef Shalom. Representing National Officials, Warner lit the candle in remembrance of victim Bernice Simon.

'Sound of One Voice'

From Page 1

Members of the Temple shared their religious home with elected officials from every level. U.S. Sen. Mark Warner was among the federal representatives. The Commonwealth's contingent included a full complement of the region's state delegates and senators, and a number of Fairfax County's supervisors, including Chairman Sharon Bulova. Fairfax County Police Chief Ed Roessler was in attendance, as were officers from the McLean District station, including commander Capt. Alan Hanson.

As welcome as the presence of "those who serve us in so many capacities" was on the occasion, there were no political speeches on the night or calls to action other than to "be the blessing," as Schwartzmann urged all to continue to nurture their common bonds.

In all, it was a simple ceremony. With only a piano and a violin as accompaniment, the cantors, the choir, and often-times the congregants sang songs for healing and unity and listened and participated in prayers for the same, and for those in law enforcement.

After the candles were lit, the "Mourner's Kaddish," the traditional prayer to honor the deceased, was recited. The prayer focuses on life, and acts as a reminder that those who mourn do not mourn alone, and many of those mourners were brought to tears before the last words of the Kaddish had finished echoing in the temple. More emotion followed as Cantors Shochet and Rhodes, with singer/guitarist Robbie Schaefer sang the song "One Voice," with its melody and lyrics that captured the spirit of the gathering.

"This is the sound of one voice, One people, one voice, A song for everyone of us, This is the sound of one voice."

With a final Benediction, the attendees were sent forward with thanks, blessings, and the hope that they would continue to be "one voice" no matter who they are or what they believe.

Lighting Candles for Those Killed

A representative from each "community" – religious, elected, civic and others – joined the organizers to light a candles for those who were killed, speaking the name of one lost as each candle was lit.

Victim	Candle Representative
Joyce Fienberg	Temple Rodef Shalom
Richard Gottfried	Christian Community
Rose Mallinger	Muslim Community
Jerry Rabinowitz	Community of Eastern Religions
Cecil Rosenthal	Law Enforcement
David Rosenthal	State Officials
Bernice Simon	National Officials
Sylvan Simon	Gun Violence Prevention Advocates
Irving Younger	Youth
Melvin Wax	Conservative Judaism
Daniel Stein	County Officials
Maurice Stallard*	Jewish Organizations
Vickie Jones*	Hebrew Immigrant Aid Society

** Stallard and Jones were the two African-American grandparents killed at the Kroger store in Kentucky*

Fairfax County Board of Supervisors Chairman Sharon Bulova and Police Chief Ed Roessler were among those who attended the service. Both the chairman and the chief participated in the ceremony, each lighting a candle for one of the victims.

Classified

Announcements

Employment

Obituary

Ms. Caroline Elizabeth Irvin of Alexandria, Virginia, passed away on Saturday, October 20th 2018, at the age of 86, surrounded by family.

Caroline taught elementary school with the Fairfax County Public Schools. She was an officer and longtime member of the Mount Vernon Nelly Custis Chapter of the National Society Daughters of the American Revolution, and a volunteer for the Fairfax County Meals on Wheels program. She was also a long time and active parishioner at St. Luke's Episcopal Church in Alexandria, VA.

Memorial service will be held at St. Luke's Episcopal Church, 8009 Fort Hunt Road, Alexandria, Virginia 22308, Friday Nov. 9th at 11:00 AM

The family is grateful for condolences, but prefers donations be made in Caroline's name to NSDAR's Genealogical Research Fund in lieu of flowers. (Find donation instructions here. https://www.dar.org/giving/support-program-your-choice)

Legals

NOTICE OF AVAILABILITY FOR THE ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO SIGNIFICANT IMPACT FOR THE PROPOSED CONSTRUCTION AND OPERATION OF THE 911TH ENGINEER COMPANY COMPLEX FORT BELVOIR, VIRGINIA

The U.S. Army Garrison Fort Belvoir hereby gives Notice of the Availability (NOA) for the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for the proposed construction and operation of the 911th Engineer Company Complex (911th EC Complex). The proposed location of the 911th EC Complex is an approximately 10-acre site located north of Route 1 (Richmond Highway) between the Fairfax County Parkway and Accotink Village, on the North Post of Fort Belvoir in Fairfax County, Virginia. The proposed 911th EC Complex would allow for the consolidation of the currently geographically separated and inadequately sized facilities utilized by the 911th Engineer Company. The Proposed Action would involve the construction of a medium-sized Tactical Equipment Maintenance Facility, an organizational equipment storage building, organizational vehicle storage, petroleum/oil/lubricants storage buildings, a hazardous waste storage building, a company operations facility, and an outdoor organizational vehicle parking area. The Proposed Action would allow the 911th Engineer Company to properly train for and more rapidly respond to emergency events with efficiency of operations and proper mission readiness.

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CONNECTION NEWSPAPERS
LEGAL ADVERTISING

ACCOUNT NAME: **Mabbett & Associates Inc., 10 Dorrance Street, Suite 700, Providence, RI 02903/Notice of Availability-911th Engineer Company Complex, Fort Belvoir VA.**

INVOICE:	**532706**
AD PLACED BY:	**Andrew Glucksman**
ORDER DATE:	**October 29, 2018**
SCHEDULED TO RUN:	**November 1, 2018**
HEADER:	**CLASSIFIED: LEGAL**
CLASSIFICATION	**CLASSIFIED: LEGAL**
SIZE:	**2 x 6**
RATE:	**$322.00**
TOTAL:	**$322.00**
EXTRA CHARGE:	
TOTAL AMOUNT DUE:	**$0.00**

CERTIFICATE OF PUBLICATION

I hereby certify that the attached advertisement for **Mabbett & Associates Inc., 10 Dorrance Street, Suite 700, Providence, RI 02903/Notice of Availability-911th Engineer Company Complex, Fort Belvoir VA.** *was published in the Mount Vernon Gazette CONNECTION NEWSPAPER for 1 successive issues commencing with the issue of November 1, 2018.*

John Keating: _____

JOHN KEATING
NOTARY PUBLIC
REG. # 7727934
COMMISSION EXPIRES
5/31/2021
COMMONWEALTH OF VIRGINIA

Section 106 Consultation Documentation

Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427
Fax 803-328-5791

October 5, 2018

Attention: Bill Sanders
Department of the Army
9820 Flagler Road, Suite 213
Fort Belvoir, Virginia 22060-5928

Re. THPO #	TCNS #	Project Description
2018-253-3		Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Dear Mr. Sanders,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail caitlinh@ccppcrafts.com.

Sincerely,

Caitlin Rogers for

Wenonah G. Haire
Tribal Historic Preservation Officer

US Army Garrison Fort Belvoir

Section 106 Consultation; Demolition of Buildings 2476 and 2477, Fort Belvoir, Virginia

VDHR File #: 2018-0698

VDHR has reviewed the above referenced project and concurs with the Army's determination of No Historic Properties Affected.

Marc Holma, Architectural Historian
Office of Review and Compliance
Virginia Department of Historic Resources

25 Sept 18
Date

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP 12 2019

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Mr. Marc Holma
Architectural Historian
Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

Dear Mr. Holma:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

Building 2476 was built in 1963 and is currently being used as a vehicle maintenance shop, emergency vehicle storage, and for training activities. The modern-styled building was built with painted white cinderblocks, a poured concrete foundation, and a flat metal roof. Adorning the building are three windows, four rollup garage doors on the north and south facades, and one brick chimney on the east side of the building. Building 2476, was determined ineligible for listing on the National Register of Historic Places in the *50 Building DOE of 2016* (VDHR File 2016-0493).

Building 2477 is a one story, temporary building that was constructed between 2004 and 2007. The building is clad with white vinyl and the only fenestrations are the two back entrances. Currently, the building is being used as a maintenance facility. While there is no property card associated with the building, there are two aerial photos (enclosed) that provide a general timeline for its construction. The first photo, taken in 2004, shows Building 2476 but the second photo, from 2007, shows both Building 2476 and Building 2477; the photos indicate Building 2477 was built within this period of time. Upon assessment, Fort Belvoir has determined that Building 2477 lacks the outstanding significance to make it eligible for the National Register of Historic Places.

Archaeological site, 44FX1810, is near the APE, but is approximately 200 feet outside the boundary and will not be disturbed. 44FX1810 sits near the intersection of

Route 1 and the Fairfax County Parkway. In 2012, it was identified in the *Archaeological Survey of Proposed Area of Potential Effects Route 1 Improvements at Fort Belvoir (Telegraph Road to Mount Vernon Memorial Highway), Fairfax County, Virginia* as a potentially eligible site.

The scope of work includes the demolition of Buildings 2476 and 2477 followed by the construction of a new 911th Engineering Company Complex. This complex will include a new Tactical Equipment Maintenance Facility (TEMF), five support buildings and an improved parking area. The five support buildings are listed in the Environmental Assessment: Organizational Equipment Storage Building; Organization Vehicle Storage; Petroleum, Oil, and Lubricants Storage Building (POL); Hazardous Waste Storage Building, and Company Operations Facility (COF). Conceptual designs for the new complex (enclosed) show an overall site plan (Page 1), as well as proposed building designs (Page 2-6).

Fort Belvoir has determined that no historic properties will be affected by the proposed demolition of Buildings 2476 and 2477 and the subsequent construction of a 911th Engineering Company Complex [36 CFR § 800.4]. Please provide comment on our determination of no historic properties in accordance with 36 CFR § 800.5(c). Letters have also been sent to the Catawba Indian Nation, Eastern Band of Cherokee Indians, Chickahominy Indian Tribe, Pamunkey Indian Tribe, Tuscarora Nation of New York, and United Keetoowah Band of Cherokee Indians in Oklahoma, Chickahominy Indian Tribe-Eastern Division, Upper Mattaponi Tribe, Rappahannock Tribe, Monacan Indian Nation, and the Nansemond Indian Nation. If we do not receive your comments within the requested 30 days, we will assume no comment and proceed with the project as planned.

Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP 12 2018

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Chief William Harris
Catawba Indian Nation
996 Avenue of the Nations
Rock Hill, South Carolina 29730

Dear Chief Harris:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

Building 2476 was built in 1963 and is currently being used as a vehicle maintenance shop, emergency vehicle storage, and for training activities. The modern-styled building was built with painted white cinderblocks, a poured concrete foundation, and a flat metal roof. Adorning the building are three windows, four rollup garage doors on the north and south facades, and one brick chimney on the east side of the building. Building 2476, was determined ineligible for listing on the National Register of Historic Places in the *50 Building DOE of 2016* (VDHR File 2016-0493).

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Route 1 and the Fairfax County Parkway. In 2012, it was identified in the *Archaeological Survey of Proposed Area of Potential Effects Route 1 Improvements at Fort Belvoir (Telegraph Road to Mount Vernon Memorial Highway), Fairfax County, Virginia* as a potentially eligible site.

The scope of work includes the demolition of Buildings 2476 and 2477 followed by the construction of a new 911th Engineering Company Complex. This complex will include a new Tactical Equipment Maintenance Facility (TEMF), five support buildings, and an improved parking area. The five support buildings are listed in the Environmental Assessment: Organizational Equipment Storage Building; Organization Vehicle Storage; Petroleum, Oil, and Lubricants Storage Building (POL); Hazardous Waste Storage Building, and Company Operations Facility (COF). Conceptual designs for the new complex (enclosed) show an overall site plan (Page 1), as well as proposed building designs (Page 2-6).

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Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP 1 2 2018

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Principal Chief Michell Hicks
Eastern Band of Cherokee Indians
P.O. Box 455
Cherokee, North Carolina 28719

Dear Principal Chief Hicks:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

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Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP 12 2018

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Chief George Wickliffe
United Keetowah of Cherokee Indians in Oklahoma
P.O. Box 746
Tahlequah, Oklahoma 74465

Dear Chief Wickliffe:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

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Colonel, U.S. Army
Commanding

Enclosures

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9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP 12 2016

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

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

Dear Chief Gray:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

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Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP 1 2 2016

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Chief Leo Henry
Tuscarora Nation of New York
2006 Mt. Hope Road
Lewistown, New York 14092

Dear Chief Henry:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

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Building 2477 is a one story, temporary building that was constructed between 2004 and 2007. The building is clad with white vinyl and the only fenestrations are the two back entrances. Currently, the building is being used as a maintenance facility. While there is no property card associated with the building, there are two aerial photos (enclosed) that provide a general timeline for its construction. The first photo, taken in 2004, shows only Building 2476 but the second photo, from 2007, shows both Building 2476 and Building 2477; the photos indicate Building 2477 was built within this period of time. Upon assessment, Fort Belvoir has determined that Building 2477 lacks the outstanding significance to make it eligible for the National Register of Historic Places.

Archaeological site, 44FX1810, is near the APE, but is approximately 200 feet outside the boundary and will not be disturbed. 44FX1810 sits near the intersection of

Route 1 and the Fairfax County Parkway. In 2012, it was identified in the *Archaeological Survey of Proposed Area of Potential Effects Route 1 Improvements at Fort Belvoir (Telegraph Road to Mount Vernon Memorial Highway), Fairfax County, Virginia* as a potentially eligible site.

The scope of work includes the demolition of Buildings 2476 and 2477 followed by the construction of a new 911th Engineering Company Complex. This complex will include a new Tactical Equipment Maintenance Facility (TEMF), five support buildings, and an improved parking area. The five support buildings are listed in the Environmental Assessment: Organizational Equipment Storage Building; Organization Vehicle Storage; Petroleum, Oil, and Lubricants Storage Building (POL); Hazardous Waste Storage Building, and Company Operations Facility (COF). Conceptual designs for the new complex (enclosed) show an overall site plan (Page 1), as well as proposed building designs (Page 2-6).

Fort Belvoir has determined that no historic properties will be affected by the proposed demolition of Buildings 2476 and 2477 and the subsequent construction of a 911th Engineering Company Complex [36 CFR § 800.4]. Please provide comment on our determination of no historic properties in accordance with 36 CFR § 800.5(c). Letters have also been sent to the Catawba Indian Nation, Eastern Band of Cherokee Indians, Pamunkey Indian Tribe, United Keetoowah Band of Cherokee Indians in Oklahoma, Chickahominy Indian Tribe-Eastern Division, Upper Mattaponi Tribe, Chickahominy Indian Tribe, Rappahannock Tribe, Monacan Indian Nation, and the Nansemond Indian Nation. If we do not receive your comments within the requested 30 days, we will assume no comment and proceed with the project as planned.

Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP 1 2 2016

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Chief Stephen R. Adkins
Chickahominy Indian Tribe
8200 Lot Cary Road
Providence Forge, Virginia 23140

Dear Chief Adkins:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

Building 2476 was built in 1963 and is currently being used as a vehicle maintenance shop, emergency vehicle storage, and for training activities. The modern-styled building was built with painted white cinderblocks, a poured concrete foundation, and a flat metal roof. Adorning the building are three windows, four rollup garage doors on the north and south facades, and one brick chimney on the east side of the building. Building 2476, was determined ineligible for listing on the National Register of Historic Places in the *50 Building DOE of 2016* (VDHR File 2016-0493).

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Archaeological site, 44FX1810, is near the APE, but is approximately 200 feet outside the boundary and will not be disturbed. 44FX1810 sits near the intersection of

Route 1 and the Fairfax County Parkway. In 2012, it was identified in the *Archaeological Survey of Proposed Area of Potential Effects Route 1 Improvements at Fort Belvoir (Telegraph Road to Mount Vernon Memorial Highway), Fairfax County, Virginia* as a potentially eligible site.

The scope of work includes the demolition of Buildings 2476 and 2477 followed by the construction of a new 911th Engineering Company Complex. This complex will include a new Tactical Equipment Maintenance Facility (TEMF), five support buildings, and an improved parking area. The five support buildings are listed in the Environmental Assessment: Organizational Equipment Storage Building; Organization Vehicle Storage; Petroleum, Oil, and Lubricants Storage Building (POL); Hazardous Waste Storage Building, and Company Operations Facility (COF). Conceptual designs for the new complex (enclosed) show an overall site plan (Page 1), as well as proposed building designs (Page 2-6).

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Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP 12 2018

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Chief Frank Adams
Upper Mattaponi Indian Tribe
P.O. Box 184
King William, Virginia 23086

Dear Chief Adams:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

Building 2476 was built in 1963 and is currently being used as a vehicle maintenance shop, emergency vehicle storage, and for training activities. The modern-styled building was built with painted white cinderblocks, a poured concrete foundation, and a flat metal roof. Adorning the building are three windows, four rollup garage doors on the north and south facades, and one brick chimney on the east side of the building. Building 2476, was determined ineligible for listing on the National Register of Historic Places in the *50 Building DOE of 2016* (VDHR File 2016-0493).

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Archaeological site, 44FX1810, is near the APE, but is approximately 200 feet outside the boundary and will not be disturbed. 44FX1810 sits near the intersection of

Route 1 and the Fairfax County Parkway. In 2012, it was identified in the *Archaeological Survey of Proposed Area of Potential Effects Route 1 Improvements at Fort Belvoir (Telegraph Road to Mount Vernon Memorial Highway), Fairfax County, Virginia* as a potentially eligible site.

The scope of work includes the demolition of Buildings 2476 and 2477 followed by the construction of a new 911th Engineering Company Complex. This complex will include a new Tactical Equipment Maintenance Facility (TEMF), five support buildings, and an improved parking area. The five support buildings are listed in the Environmental Assessment: Organizational Equipment Storage Building; Organization Vehicle Storage; Petroleum, Oil, and Lubricants Storage Building (POL); Hazardous Waste Storage Building, and Company Operations Facility (COF). Conceptual designs for the new complex (enclosed) show an overall site plan (Page 1), as well as proposed building designs (Page 2-6).

Fort Belvoir has determined that no historic properties will be affected by the proposed demolition of Buildings 2476 and 2477 and the subsequent construction of a 911th Engineering Company Complex [36 CFR § 800.4]. Please provide comment on our determination of no historic properties in accordance with 36 CFR § 800.5(c). Letters have also been sent to the Catawba Indian Nation, Eastern Band of Cherokee Indians, Pamunkey Indian Tribe, Tuscarora Nation of New York, United Keetoowah Band of Cherokee Indians in Oklahoma, Chickahominy Indian Tribe-Eastern Division, Chickahominy Indian Tribe, Rappahannock Tribe, Monacan Indian Nation, and the Nansemond Indian Nation. If we do not receive your comments within the requested 30 days, we will assume no comment and proceed with the project as planned.

Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Assistant Chief Gerald Stewart
Chickahominy Indians Eastern Division
2895 Mt. Pleasant Road
Providence Forge, Virginia 23140

Dear Assistant Chief Stewart:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

Building 2476 was built in 1963 and is currently being used as a vehicle maintenance shop, emergency vehicle storage, and for training activities. The modern-styled building was built with painted white cinderblocks, a poured concrete foundation, and a flat metal roof. Adorning the building are three windows, four rollup garage doors on the north and south facades, and one brick chimney on the east side of the building. Building 2476, was determined ineligible for listing on the National Register of Historic Places in the *50 Building DOE of 2016* (VDHR File 2016-0493).

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Archaeological site, 44FX1810, is near the APE, but is approximately 200 feet outside the boundary and will not be disturbed. 44FX1810 sits near the intersection of

Route 1 and the Fairfax County Parkway. In 2012, it was identified in the *Archaeological Survey of Proposed Area of Potential Effects Route 1 Improvements at Fort Belvoir (Telegraph Road to Mount Vernon Memorial Highway), Fairfax County, Virginia* as a potentially eligible site.

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Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP 12 2018

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Chief Anne Richardson
Rappahannock Tribe
5036 Indian Neck Road
Indian Neck, Virginia 23148

Dear Chief Richardson:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

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Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

SEP [illegible] 2019

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Tribal Chief Dean Branham
Monacan Indian Nation
P.O. Box 1136
Madison Heights, Virginia 24572

Dear Tribal Chief Branham:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

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Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

Directorate of Public Works

SUBJECT: Section 106 Consultation – Demolition of Buildings 2476 and 2477 with Construction of a New 911th Engineering Company Complex

Chief Lee Lockamy
Nansemond Indian Tribe
1001 Pembroke Lane
Suffolk, Virginia 23434

Dear Chief Lockamy:

Fort Belvoir proposes to demolish Buildings 2476 and 2477 to consolidate the 911th Engineering Company facilities. This consolidation is to improve efficiency and functionality. Following the demolition of the two buildings, a new Engineering Company Complex will be constructed on the same site. The Area of Potential Effect (APE) indicates the boundaries of ground disturbance for this undertaking (enclosed).

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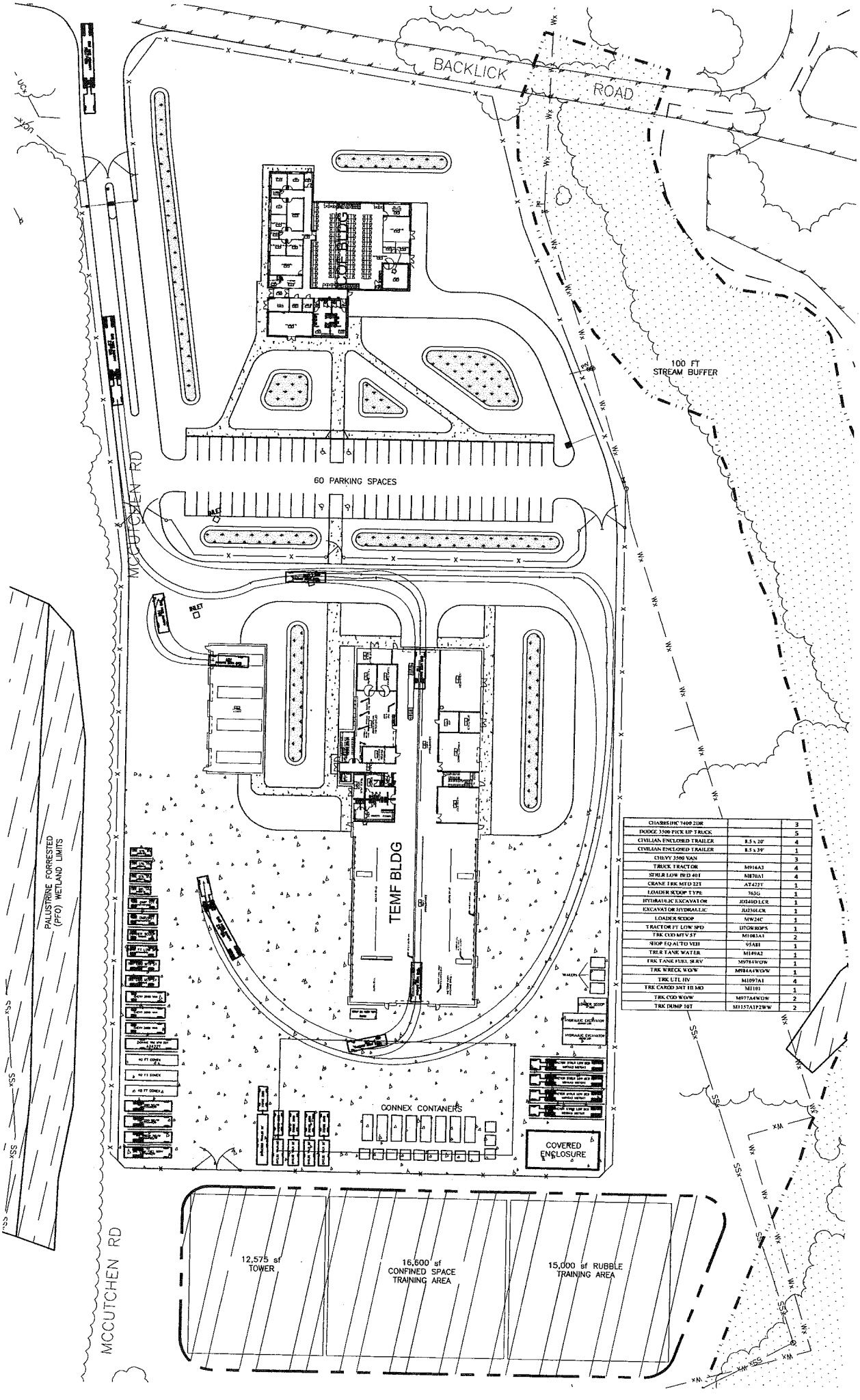
Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

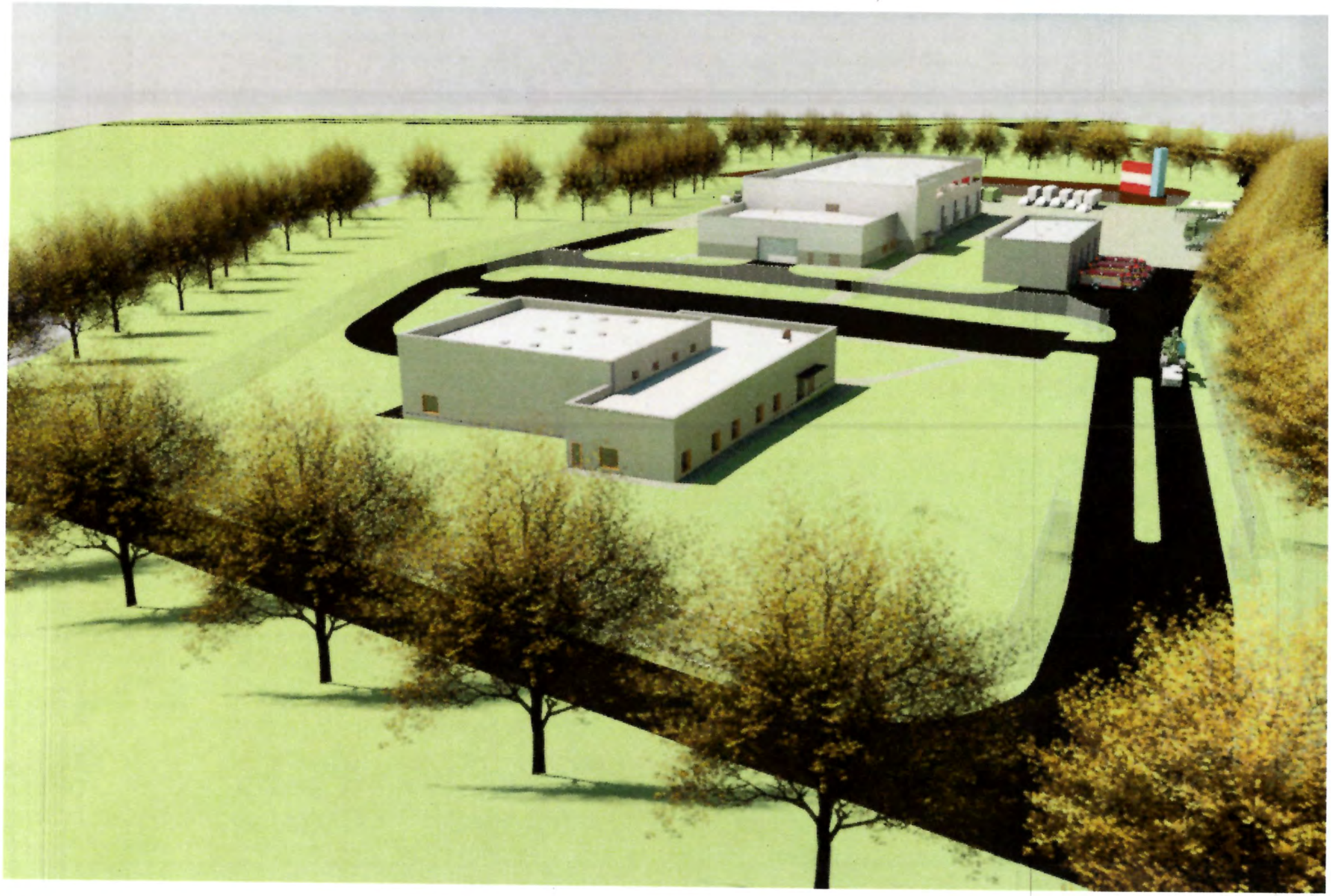
Sincerely,

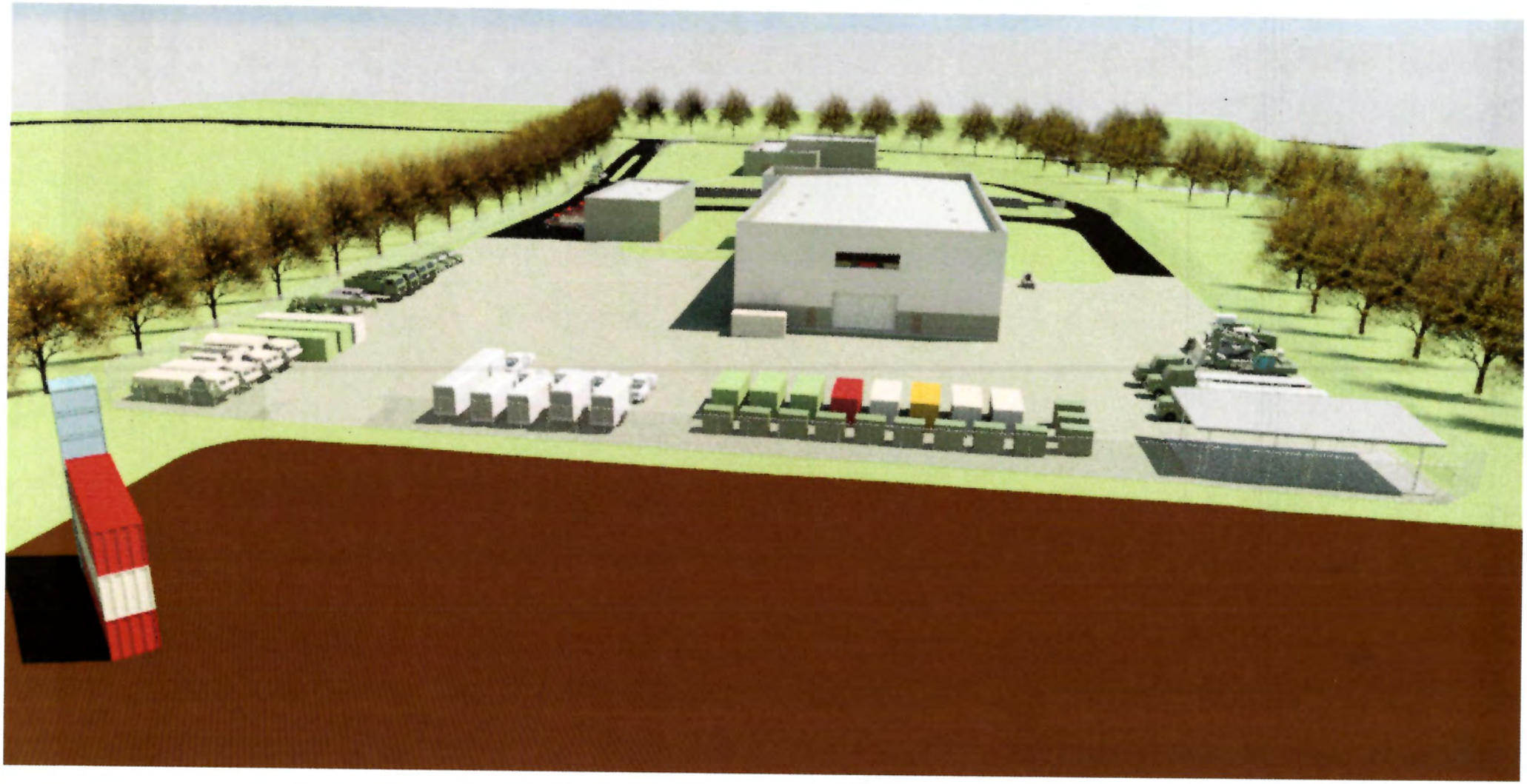
Michael H. Greenberg
Colonel, U.S. Army
Commanding

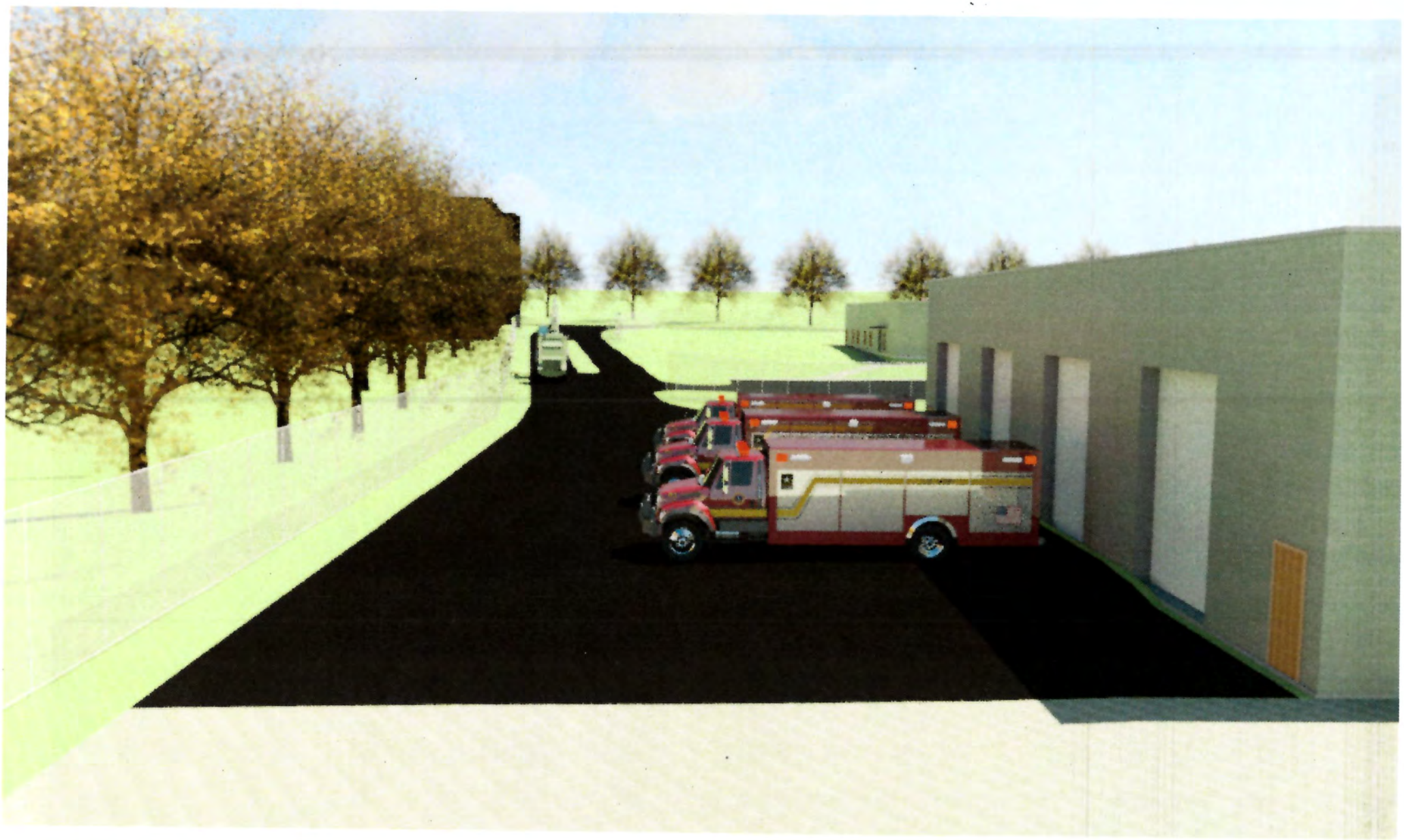
Enclosures

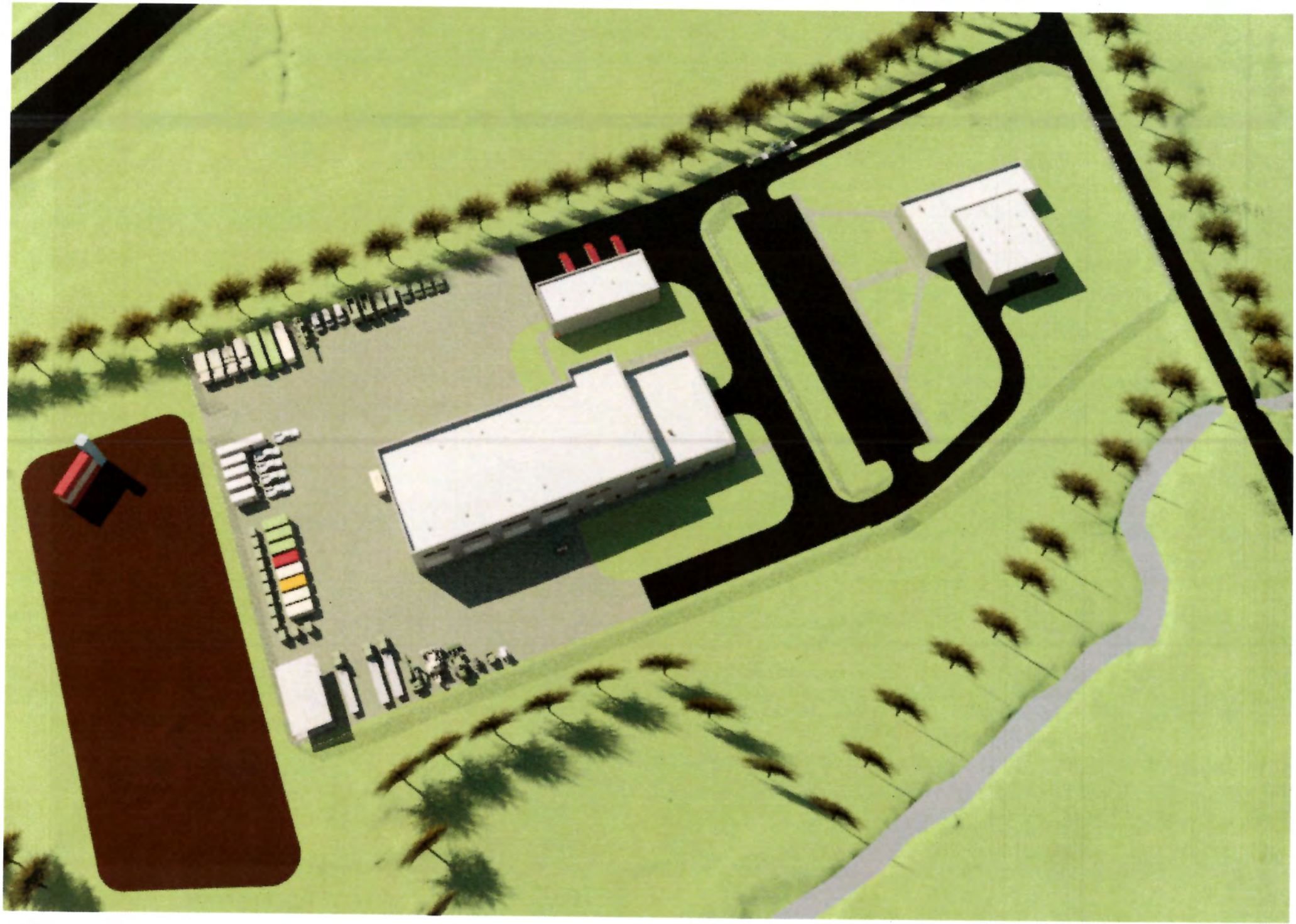


CHASSIS FHC 7400 210R		3
DODGE 3500 PICK UP TRUCK		5
CIVILIAN ENCLOSED TRAILER	8.5 x 20'	4
CIVILIAN ENCLOSED TRAILER	8.5 x 39'	1
CHEVY 3500 VAN		3
TRUCK TRACTOR	M916A3	4
STRLR LOW BED 40T	M870A1	4
CRANE TRK MTD 22T	AT422T	1
LOADER SCOOP TYPE	763G	1
HYDRAULIC EXCAVATOR	JD240D LCR	1
EXCAVATOR HYDRAULIC	JD230LCR	1
LOADER SCOOP	MW24C	1
TRACTOR FT LOW SPD	D7GWROPS	1
TRK CGO MTV 5T	M1083A3	2
SHOP EQ AUTO VEH	954B1	1
TRLR TANK WATER	M149A2	1
TRK TANK FUEL SERV	M978WOW	1
TRK WRECK W/CW	M984A4WOW	1
TRK UTL HV	M1097A1	4
TRK CARGO 3/4T HI MO	M1101	1
TRK CGO W/O/W	M977A4WOW	2
TRK DUMP 10T	M1157A1P2WW	2

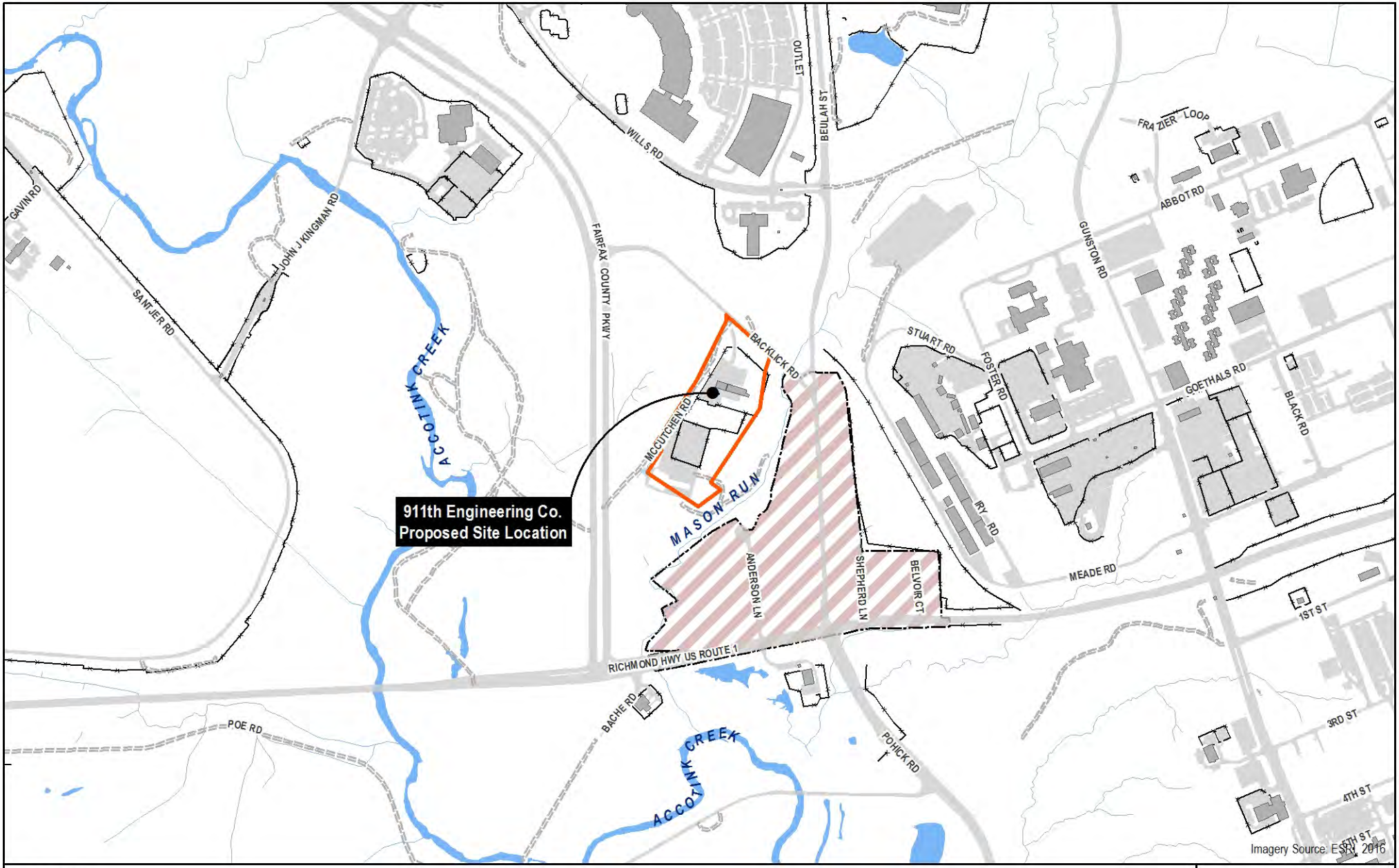









2004 Aerial Photo



LEGEND

- INSTALLATION BOUNDARY
- APPROXIMATE LIIMTS OF DISTURBANCE
- WATER
- ACCOTINK VILLAGE
- BUILDING
- FENCE
- ROAD/PAVEMENT
- UNPAVED ROAD

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Feet

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To:
Consultation Code: 05E2VA00-2018-SLI-4483
Event Code: 05E2VA00-2018-E-11651
Project Name: Proposed 911th Engineer Company Complex

August 21, 2018

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-4483

Event Code: 05E2VA00-2018-E-11651

Project Name: Proposed 911th Engineer Company Complex

Project Type: MILITARY OPERATIONS / MANEUVERS

Project Description: Proposed new 911th Engineer Company Complex at Fort Belvoir. Project will involve demolition of existing 911th buildings at the site, then construction of a new building at the site. Project would occur in 2019. All time of year restrictions on vegetation clearing would be followed.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.71167620878454N77.1616152372587W

Counties: Fairfax, VA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National W ildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Natural Resources Technical Memo

Prepared for the

U.S. Army Corps of Engineers, Baltimore District

Fort Belvoir, Virginia

Prepared by

AECOM

3101 Wilson Boulevard, Suite 900
Arlington, VA 22201

January 15, 2018

Table of Contents

APPENDICES

1.0 INTRODUCTION

The United States Army Corps of Engineers (USACE), in cooperation with Fort Belvoir, has initiated a study for the proposed 911th Engineer Company Operations Complex that would be located on Fort Belvoir, in Fairfax County, VA. The proposed complex would provide the 911th Engineer Company with effective and adequate facilities that support unit mission readiness, meet authorized requirements, and consolidate operations at one location. Pursuant to the National Environmental Policy Act (NEPA), and in accordance with 32 CFR Part 651, *Environmental Analysis of Army Actions*, an Environmental Assessment (EA) will be prepared that will assess environmental impacts of the proposed action and alternatives.

This Natural Resources Technical Memo was prepared to identify Threatened and Endangered (T&E) Species Habitat and trees within the project area to assist with the environmental impact assessment of the proposed action and alternatives. Information in this Technical Memo supports analysis presented in the EA.

2.0 THREATENED AND ENDANGERED SPECIES MEANDER SURVEY AND HABITAT EVALUATION

A site walk and habitat evaluation for the state-threatened wood turtle (*Glyptemys insculpta*), the federally-threatened and state-endangered small whorled pogonia (*Isotria medeoloides*), and the federally-threatened and state-threatened northern long-eared bat (*Myotis septentrionalis*) were conducted within a 12 acre study area encompassing the proposed 911th Engineer Company Operations Complex. The study area is identified on the Location Map (Figure 1, Appendix A). Fieldwork was completed by AECOM Environmental Scientists on November 20, 2017. Immediately surrounding areas, outside of the study area were also considered as they relate to the potential for suitable habitat within the study area.

2.1 WOOD TURTLE

HABITAT REQUIREMENTS

In Virginia, the wood turtle has a range extending from Arlington and Fairfax County westward to northwestern Rockingham County (VDGIF, 2018). Overwintering occurs in bottoms or banks of streams where clear water flows all winter, including pools underneath a layer of ice; underwater muskrat burrows, beaver lodges, or over-bank root systems also may be used as winter hibernation sites (Ernst, 1986).

In summer, wood turtle may roam widely overland and can be found in a variety of terrestrial habitats adjacent to streams, including deciduous woods, cultivated fields, woodland bogs, and marshy pastures. However, the wood turtle is most commonly associated with forested riparian areas. Although wood turtles are a forest species, they appear to prefer areas in which there are openings in the streamside canopy rather than unbroken forest (Ernst et al., 1994).

HABITAT EVALUATION

A habitat assessment to determine the suitability of the study area for wood turtle was conducted on November 20, 2017 by AECOM Environmental Scientists. The assessment included an evaluation for both aquatic and terrestrial habitats. A description of the findings for aquatic and terrestrial habitats is provided below.

Aquatic Habitats

There are no wood turtle aquatic habitats present within the study area. However, adjacent to the study area, there is potentially suitable wood turtle aquatic habitat located approximately 100 ft east of the study area within Mason Run, an approximately 15 foot wide perennial stream with clear water flowing at the time of the assessment. Mason Run drains south, parallel with the study area's eastern boundary. The section of Mason Run adjacent to the southeast study area boundary has been channelized for approximately 500 feet, and lined with rip rap gabions on both sides of the stream; spill walls have been installed across the channel in multiple locations along this armored section. The armored section of Mason Run does not provide potential hibernation habitat for wood turtle, but connects with suitable habitat upstream and downstream and may be used as a potential travel corridor. Upstream and downstream of the armored sections of Mason Run, this stream has undercut banks, overhanging roots, and a soft sandy/gravelly substrate that could potentially serve as wood turtle aquatic habitat. These features combined with the water depth, clarity, and flow, and the surrounding forested habitat are all suitable for wood turtle life history needs, including hibernation, reproduction, travel, cover, and forage.

Terrestrial Habitats

There is suitable wood turtle terrestrial habitat present within the study area that consists of areas of mixed hardwood forest and mixed pine-hardwood forest. These forests have sufficient understory vegetation to provide suitable summer foraging habitat for wood turtle. The locations of these mixed hardwood forests and mixed pine-hardwood forests are identified on Figure 2 (Appendix A). These mixed hardwood forests are shown in Photos 1, 2, 3, and 4, and the mixed pine-hardwood forests are shown in Photos 5 and 6 (Appendix B).

The remainder of the study area consists of marginal to unsuitable habitat for wood turtle. A mixed pine-hardwood forest located in the southeast portion of the property could provide marginal terrestrial habitat; it is overgrown with invasive species and covered with dense woody debris throughout the forest floor sufficient to inhibit wood turtle foraging and passage (Photo 7).

Areas of unsuitable habitat include a pine plantation along the northwest boundary of the study area that has a sparse understory unsuitable for foraging (Photo 8). There are soil stockpiles in the south section of the property enclosed by silt fence and inaccessible to turtles (Photo 9). The remainder of the study area consists of developed and maintained areas that are unsuitable habitat for wood turtle (Photo 10). Additionally, the majority of the developed area is fenced and therefore inaccessible to wood turtles.

There were no wood turtle observed during habitat evaluation site walk conducted on November 20, 2017. The site walk reviewed the suitable and marginal terrestrial habitat within the study area as well as the section of Mason Run immediately adjacent to the study area. Although no wood turtle were identified, this site review is not conclusive; wood turtle may still exist within the study area.

Conclusion

There are areas of suitable and marginal wood turtle terrestrial habitat within the study area. Based on the Virginia Department of Game and Inland Fisheries (VDGIF) recommended Time of Year Restriction (TOYR) guidelines, construction activities should not occur within the suitable and marginal habitat areas that are within 900 feet of stream (Mason Run) from 01 April to 30 September. The VDGIF also recommends maintaining an undisturbed naturally vegetated stream buffer of at least 300 feet. Based on the currently proposed site development area, disturbance within VDGIF's recommended 300 foot vegetated steam buffer would be required.

2.2 Small Whorled Pogonia

HABITAT REQUIREMENTS

The small whorled pogonia (SWP) occurs on upland sites in mature mixed-deciduous or mixed deciduous/coniferous forests. Common characteristics of SWP sites include a relatively open understory canopy, sparse to moderate ground cover, and proximity to features that create breaks in the forest canopy that cause an increase in the amount of light reaching the forest floor (USFWS, 1992).

Small whorled pogonia habitat almost always contains various types of decaying vegetation including fallen trunks and limbs, leaf and frond litter, bark, stumps, and roots of dead trees. Soils are typically highly acidic with low nutrient content, with moderately high soil moisture values (USFWS, 1992).

Typical canopy species associated with SWP in Virginia include white oak (*Quercus alba*), black oak (*Quercus velutina*), scarlet oak (*Quercus coccinea*), sweet-gum (*Liquidambar styraciflua*), tulip poplar (*Liriodendron tulipifer*a), and American beech (*Fagus grandifolia*). Associated understory species in this region include partridge berry (*Mitchella repens*), New York fern (*Thelypteris noveboracensis*), and Virginia creeper (*Parthenocissus quinquefolia*) (USFWS, 1992).

The SWP habitat is known to be somewhat variable and therefore the species may occur on a particular site where of one or more of the referenced habitat criteria are not present.

HABITAT EVALUATION

A habitat evaluation to determine the suitability of the study area for SWP was conducted on November 20, 2017 by AECOM Environmental Scientists. The habitat evaluation classified the various habitats on-site into one of three categories, which are suitable, marginal, and unsuitable habitat. Suitable habitat represents areas that encompass most of the habitat criteria referenced above. Marginal habitat is areas where multiple habitat criteria are either missing or suboptimal to support SWP. Unsuitable habitat areas have little or no potential to support a SWP population due to a lack of most of the referenced habitat criteria.

There were no areas of suitable or marginal habitat for SWP present within the study area. There were several areas of unsuitable habitat identified within the study area and these are characterized below.

Within the study area there are four mixed hardwood forests, two mixed pine-hardwood forests, one pine plantation, and multiple developed/maintained areas that are unsuitable SWP habitat; these habitats are identified on Figure 3.

The mixed hardwood forests shown in Photos 1, 2, and 3 have a dense, herbaceous layer with low species diversity dominated by plants not typically associated with SWP habitat, including the invasive Japanese honeysuckle (*Lonicera japonica*). The mixed hardwood forest shown in Photo 4 is approximately 30 years old; it is younger and more densely stocked than typical SWP habitat. Forests shown in Photos 1, 2, 3, and 4, have a moderately dense shrub/sapling layer, unlike the relatively open understory of typical SWP habitat. The forests shown in Photos 1, 2, 3, and 4 contain multiple tree species not typically associated with SWP habitat including Virginia pine (*Pinus virginiana*) and Eastern red-cedar (*Juniperus virginiana*). In addition, the prior site disturbance adjacent to the forests shown in Photos 1 and 3 promote edge-conditions conducive to aggressive plant species and introduce excessive light from adjacent cleared areas not typically associated with SWP. Due to the conditions listed above, the four mixed hardwood forests on-site are considered unsuitable habitat, with little or no potential to support a SWP population.

There are two areas of mixed pine-hardwood forest within the study area that are unsuitable SWP habitat. These mixed pine-hardwood forest are shown in Photos 5, 6, and 7. The mixed pine-hardwood forests shown in Photos 5 and 6 are approximately 30 years old with a dense sapling layer; they are younger and more densely populated than typical SWP habitat. The mixed pine-hardwood forest shown in Photo 7 has a very dense herbaceous and shrub/sapling layer that would likely outcompete SWP. The forest shown in Photo 5 contains Virginia pine, red cedar, and black locust (*Robinia pseudoacacia*), which are tree species not typically associated with SWP habitat. The forests shown in Photos 6 and 7 are dominated by Virginia pine which is unfavorable habitat for SWP. Based on the conditions listed above, the mixed pine-hardwood forests within the study area are considered unsuitable habitat that is unlikely to support a SWP population.

The pine plantation located along the northwest study area boundary is low-quality, unsuitable habitat for SWP. The location of this pine plantation is identified on Figure 3, and it is shown in Photo 8.

The remainder of the property consists of soil stockpiles (Photo 9), developed areas (Photo 10), and mowed, maintained areas that are unsuitable habitat for SWP.

There were no SWP observed during the habitat evaluation site walk although the results of the survey are not conclusive as this field review was conducted in fall, outside the survey window (June 1 – July 20), at a time when the vegetative structures may have already decomposed or become difficult to identify.

Conclusion

There were no areas of suitable or marginal SWP habitat identified within the study area. Several areas of forest including mixed hardwood, mixed pine-hardwood, and pine plantation were characterized but due to a lack of suitable habitat criteria listed above, they have been characterized as unsuitable habitat with little or no potential to support a SWP population.

2.3 Northern Long-Eared Bat

HABITAT REQUIREMENTS

Northern long-eared (NLEB) bats spend winter hibernating in caves and abandoned mines, called hibernacula. They utilize areas in various sized caves or mines with constant temperatures, high humidity, and no air currents (USFWS, 2015a).

Northern long-eared bats are considered flexible in their summer habitat requirements. Within the bat's large geographic range from southeastern U.S. into the Canada's Yukon Territory it lives in many different types of wooded habitats, which vary in size, physical structure and species composition. The northern long-eared bat summer habitat can range from large to small forest stands; dense to sparse forest canopies; and hardwood forests to mixed pine-hardwood forests. Within these forests and small stands, the bat's specific habitat needs for feeding, shelter, and reproduction are flexible. They roost in cavities, hollows, or under loose bark in many different species of tree, live or dead, that are generally over 3 inches in diameter. This bat species also forages in a variety of forest types (USFWS, 2016).

HABITAT EVALUATION

There were no NLEB hibernacula present within the study area. However, the mixed hardwood forests and mixed pine-hardwood forests identified within the study area (see Figure 2) could provide roost sites, and foraging areas; therefore, these forests could provide potential summer habitat for NLEB. The pine plantation

within the study area is considered to be low-quality summer habitat, unlikely to support NLEB (USFWS, 2015b). The developed and maintained areas of the site are generally unsuitable for NLEB.

A site walk of the forests within the study area was performed on November 20, 2017 during the habitat evaluation. There were no NLEB observed during the site walk and therefore the results are not conclusive as this survey was conducted in late fall, when NLEB would be expected to have already migrated back to their hibernacula.

Conclusion

There were no NLEB hibernacula identified within the study area, but the mixed hardwood forests and mixed pine-hardwood forests within the study area could provide summer habitat for NLEB. Based on the currently proposed site development area, clearing of potential NLEB summer habitat would be required. Tree-clearing for development may comply with section 7 of the Endangered Species Act by implementing a time-of-year restriction (TOYR) on tree clearing from April 15th - September 15th, allowing for a Not Likely to Adversely Affect (NLAA) determination. Alternately, a NLAA determination could be obtained by implementing other applicable informal programmatic consultations, or obtain a May Affect determination, but implement the Service's Programmatic Biological Opinion for the final 4(d) rule.

3.0 TREE SURVEY

A tree survey of the approximate 12-acre project area was performed on November 17, 2017. The AECOM team identified and mapped all trees larger than 4 inches in diameter at breast height (DBH) that may be removed by the proposed project. In addition to the DBH, the tree common names and tree species were recorded for each inventoried tree, and each inventoried tree was given a unique identification number. The locations of trees identified as greater than 4 inches in DBH were mapped using a sub-meter Trimble GPS unit. The tree survey was conducted within the currently proposed limits of disturbance.

The survey team identified 950 trees larger than 4 inches in DBH within the study area. The location of each inventoried tree is provided in Figures 1-14 and the tree inventory data is provided in Figures 15-20 (Appendix C). The most common species of trees inventoried were sweet-gum, Virginia pine, loblolly pine (*Pinus taeda*), Eastern red-cedar, red maple (*Acer rubrum*), and white oak.

4.0 REFERENCES

Ernst, C.H. 1986. Environmental temperatures and activities in the Wood Turtle, Clemmys insculpta. Journal of Herpetology 20:222-229.

Ernst, C.H., J.E. Lovich and R.W. Barbour. 1994. Turtles of the United States and Canada. Smithsonian Institution Press, Washington D.C. 578 pp.

U.S. Fish and Wildlife Service. 1992. Small Whorled Pogonia (Isotria medeoloides) Recovery Plan, First Revision. Newton Corner, Massachusetts. 75 pp.

U.S. Fish & Wildlife Service. 2015a. Northern Long-Eared Bat, Myotis septentrionalis. [website] Accessed January 10, 2018. Available from https://www.fws.gov/midwest/endangered/mammals/nleb/nlebFactSheet.html

U.S. Fish & Wildlife Service. 2015b. Northern Long-eared Bat, Interim 4(d) Rule for the Northern Long-eared Bat, Questions and Answers. [website] Accessed January 10, 2018. Available from https://www.fws.gov/midwest/endangered/mammals/nleb/FAQsInterim4dRuleNLEB.html

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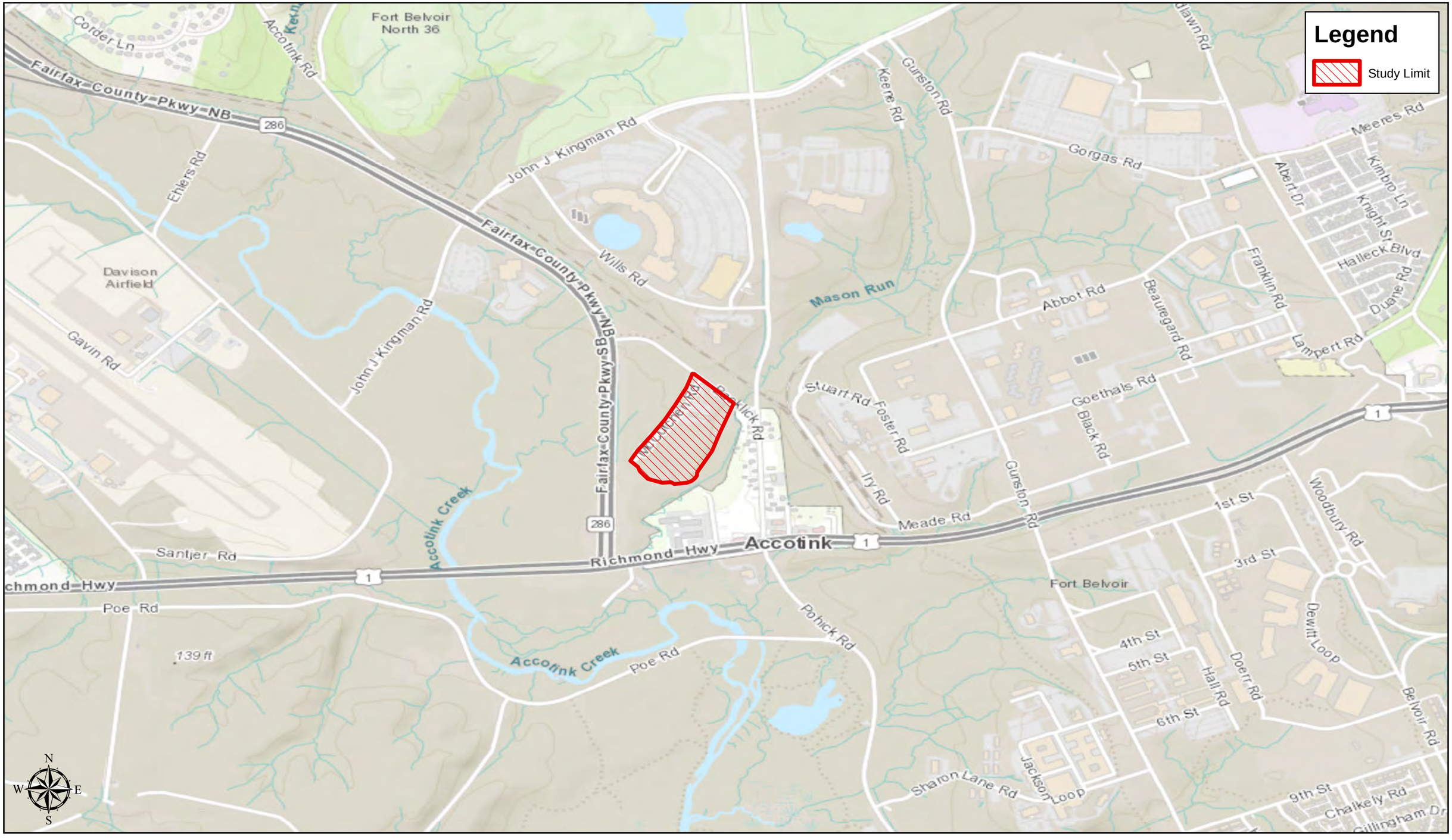
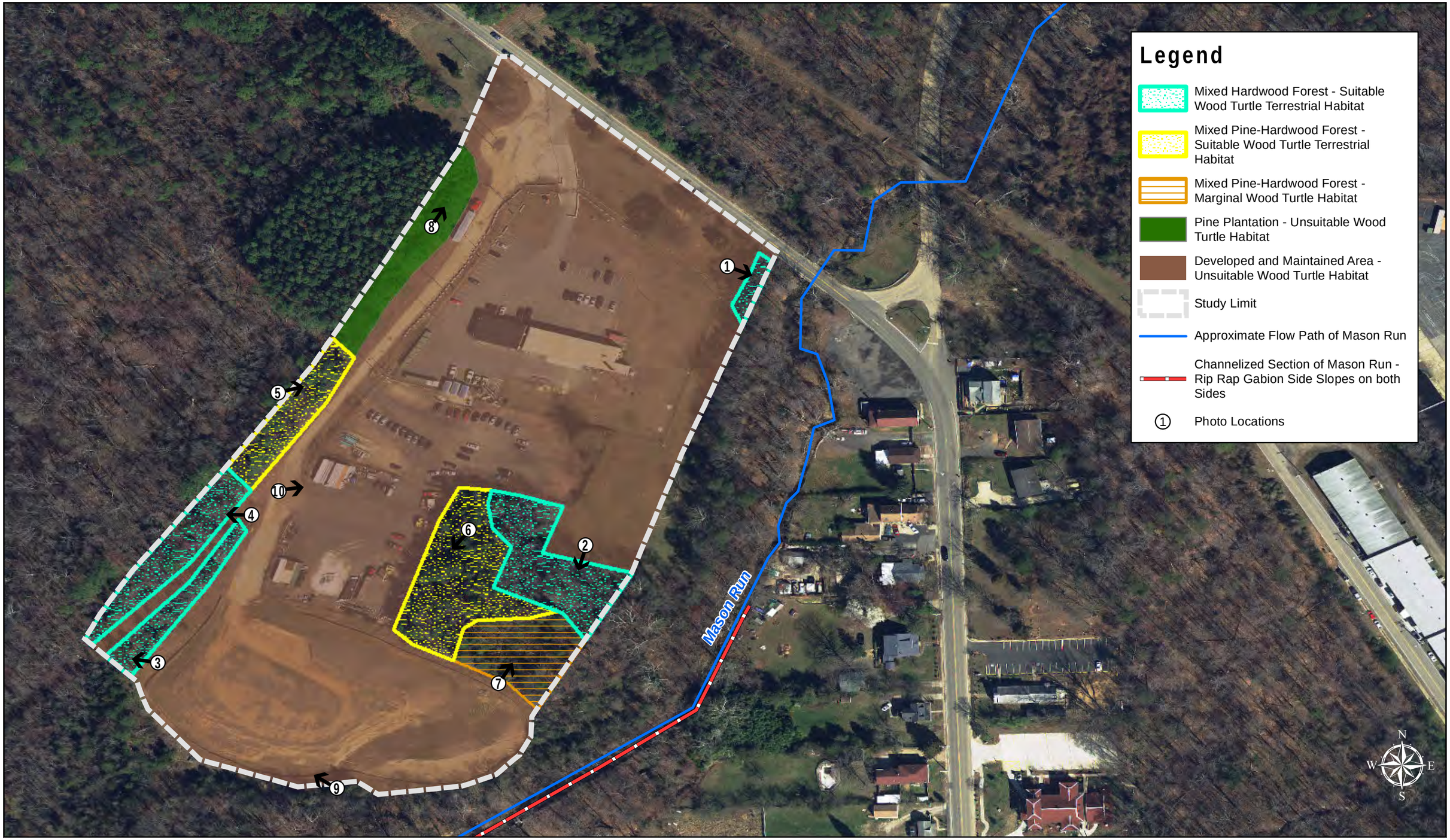
Virginia Department of Game & Inland Fisheries (VDGIF). 2018. Wood Turtle (Glyptemys insculpta), Distribution. [website] Accessed January 10, 2018. Available from https://www.dgif.virginia.gov/wildlife/information/wood-turtle/

APPENDIX A



AECOM	911th Engineering Complex U.S. Army Corps of Engineers	Location Map	Scale: 1 inch = 1,000 feet 0 500 1,000 Feet	Date: 1/9/2018 Revisions:	Dwn.By: ... Proj.No.: 60560225	Figure.: 1



AECOM	911th Engineering Complex U.S. Army Corps of Engineers	Wood Turtle Habitat Evaluation Map	Scale: 1 inch = 150 feet 0 75 150 Feet	Date: 1/10/2018 Revisions:	Dwn.By: JLB Proj.No.: 60560225	Figure.: 2

AECOM	911th Engineering Complex U.S. Army Corps of Engineers	Small Whorled Pogonia Habitat Evaluation Map	Scale: 1 inch = 150 feet 0 75 150 Feet	Date: 1/10/2018 Revisions:	Dwn.By: JLB Proj.No.: 60560225	Figure.: 3

APPENDIX B

PHOTOGRAPH LOG

AECOM

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
USACE, Baltimore District	Hampton Roads, VA	60560225

Photo No.	Date:
1	11/20/17

Direction Photo Taken:

East

Description:

Representative view of the mixed hardwood forest at **Photo Location 1** that could provide suitable wood turtle terrestrial habitat.

This forest edge has a dense herbaceous layer and moderately dense shrub/sapling layer not typically associated with SWP habitat. This forest also has some tree species not typically associated with SWP habitat including Virginia pine (*Pinus virginiana*) and red cedar (*Juniperus virginiana*). Due to the conditions listed above, this mixed hardwood forest is considered unsuitable habitat, with little or no potential to support a SWP population.

This forest could provide potential summer habitat for NLEB.

Photo No.	Date:
2	11/20/17

Direction Photo Taken:

South

Description:

Representative view of the mixed hardwood forest at **Photo Location 2** that could provide suitable wood turtle terrestrial habitat.

This forest has a dense herbaceous layer and moderately dense shrub/sapling layer not typically associated with SWP habitat. This forest also has some tree species not typically associated with SWP habitat including Virginia pine and red cedar. Due to the conditions listed above, this mixed hardwood forest is considered unsuitable habitat, with little or no potential to support a SWP population.

This forest could provide potential summer habitat for NLEB.

AECOM

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
USACE, Baltimore District	Hampton Roads, VA	60560225

Photo No.	Date:
3	11/20/17

Direction Photo Taken:

West

Description:

Representative view of the mixed hardwood forest at **Photo Location 3** that could provide suitable wood turtle terrestrial habitat.

This forest has a dense herbaceous layer and moderately dense shrub/sapling layer not typically associated with SWP habitat. This forest also has some tree species not typically associated with SWP habitat including Virginia pine and red cedar. Due to the conditions listed above, this mixed hardwood forest is considered unsuitable habitat, with little or no potential to support a SWP population.

This forest could provide potential summer habitat for NLEB.

Photo No.	Date:
4	11/20/17

Direction Photo Taken:
West

Description:

Representative view of the mixed hardwood forest at **Photo Location 4** that could provide suitable wood turtle terrestrial habitat.

This forest is approximately 30 years old; it is younger and more densely populated in the shrub/sapling and canopy layer than typical SWP habitat. This forest also has some tree species not typically associated with SWP habitat including Virginia pine and red cedar. Due to the conditions listed above, this mixed hardwood forest is considered unsuitable habitat, with little or no potential to support a SWP population.

This forest could provide potential summer habitat for NLEB.

AECOM

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
USACE, Baltimore District	Hampton Roads, VA	60560225

Photo No.	Date:
5	11/20/17

Direction Photo Taken:

Northwest

Description:

Representative view of the mixed pine-hardwood forest at **Photo Location 5** that could provide suitable wood turtle terrestrial habitat.

This forest is approximately 30 years old; it is younger and more densely populated in the shrub/sapling and canopy layer than typical SWP habitat. This forest also has some tree species not typically associated with SWP habitat including Virginia pine, red cedar, and black locust (*Robinia pseudoacacia*). Based on the conditions listed above, this mixed pine-hardwood forests is considered unsuitable habitat that is unlikely to support a SWP population.

This forest could provide potential summer habitat for NLEB.

Photo No.	Date:
6	11/20/17

Direction Photo Taken:

Northwest

Description:

Representative view of the mixed pine-hardwood forest at **Photo Location 6** that could provide suitable wood turtle terrestrial habitat.

This forest is approximately 30 years old; it is younger and more densely populated in the shrub/sapling and canopy layer than typical SWP habitat. This forest is also dominated by Virginia pine which is unfavorable habitat for SWP. Based on the conditions listed above, this mixed pine-hardwood forest is considered unsuitable habitat that is unlikely to support a SWP population.

This forest could provide potential summer habitat for NLEB.

AECOM

PHOTOGRAPH LOG

Client Name:	**Site Location:**	**Project No.**
USACE, Baltimore District	Hampton Roads, VA	60560225

Photo No.	**Date:**
7	11/20/17

Direction Photo Taken:

Northwest

Description:

Representative view of the mixed pine-hardwood forest at **Photo Location 7** that could provide marginal wood turtle terrestrial habitat. It is overgrown with invasive species and covered with dense woody debris throughout the forest floor sufficient to inhibit wood turtle foraging and passage.

This forest's very dense herbaceous and shrub/sapling layer that would likely outcompete small whorled pogonia. This forest is also dominated by Virginia pine which is unfavorable habitat for SWP. Based on the conditions listed above, this mixed pine-hardwood forest is considered unsuitable habitat that is unlikely to support a SWP population.

This forest could provide potential summer habitat for NLEB.

Photo No.	**Date:**
8	11/20/17

Direction Photo Taken:

Northwest

Description:

Representative view of the pine plantation at **Photo Location 8** located along the northwest study area boundary that has a sparse understory unsuitable for wood turtle foraging habitat.

This pine plantation is unsuitable habitat for SWP.

This pine plantation is low-quality, unsuitable habitat for NLEB.

AECOM

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
USACE, Baltimore District	Hampton Roads, VA	60560225

Photo No.	Date:
9	11/20/17

Direction Photo Taken:

Northwest

Description:

Photo Location 9 shows the soil stockpiles in the south section of the property enclosed with silt fence and inaccessible to wood turtles.

There is no suitable SWP habitat within the soil stockpile areas.

There is no suitable NLEB habitat within the soil stockpile areas.

Photo No.	Date:
10	11/20/17

Direction Photo Taken:

Northwest

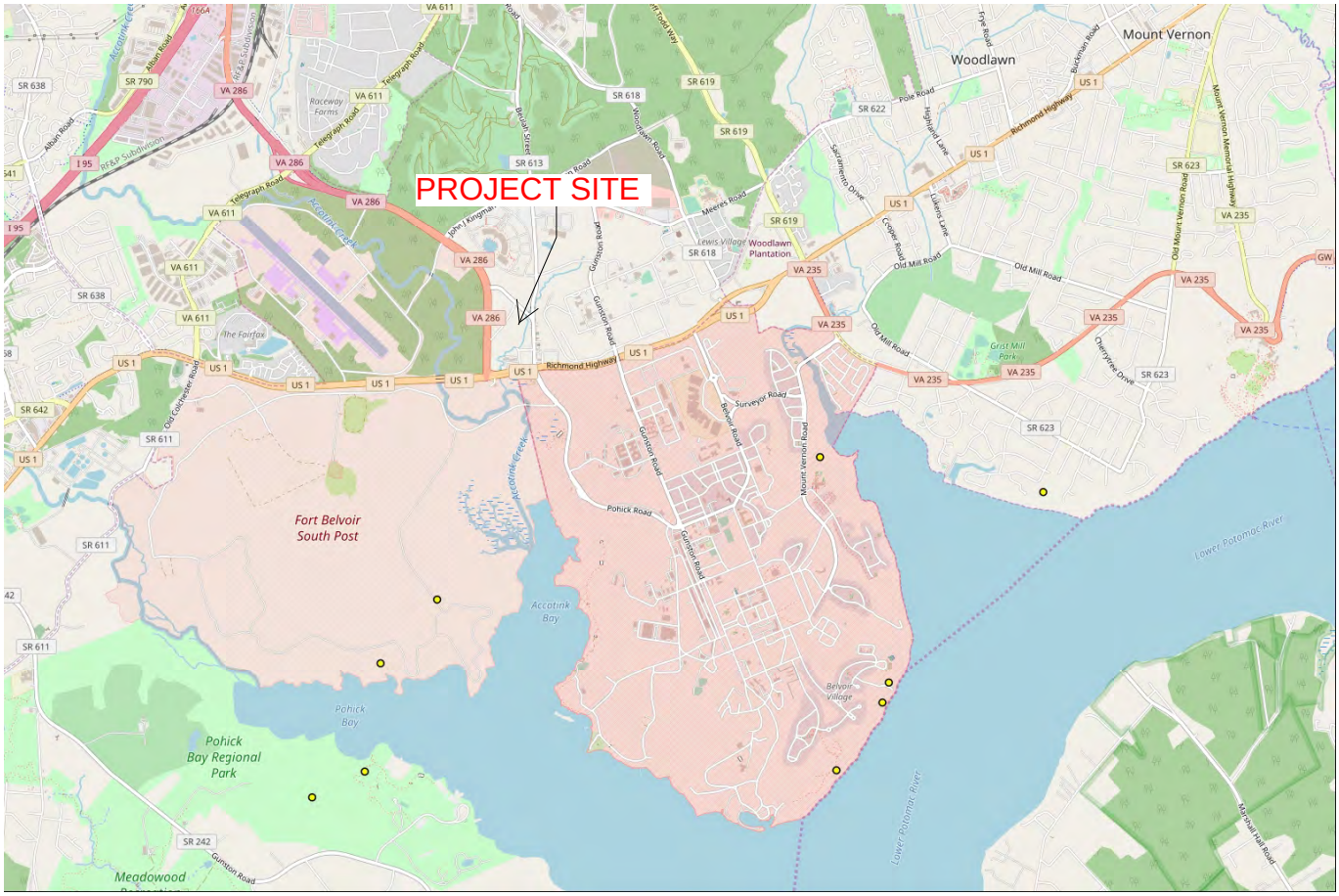
Description:

Photo Location 10 shows some of the development in the south section of the property. Most of the developed area is enclosed in fence and inaccessible to wood turtles.

There is no suitable SWP habitat within the developed and maintained areas of the site.

The developed and maintained areas of the site are generally unsuitable for NLEB.

CCB Mapping Portal

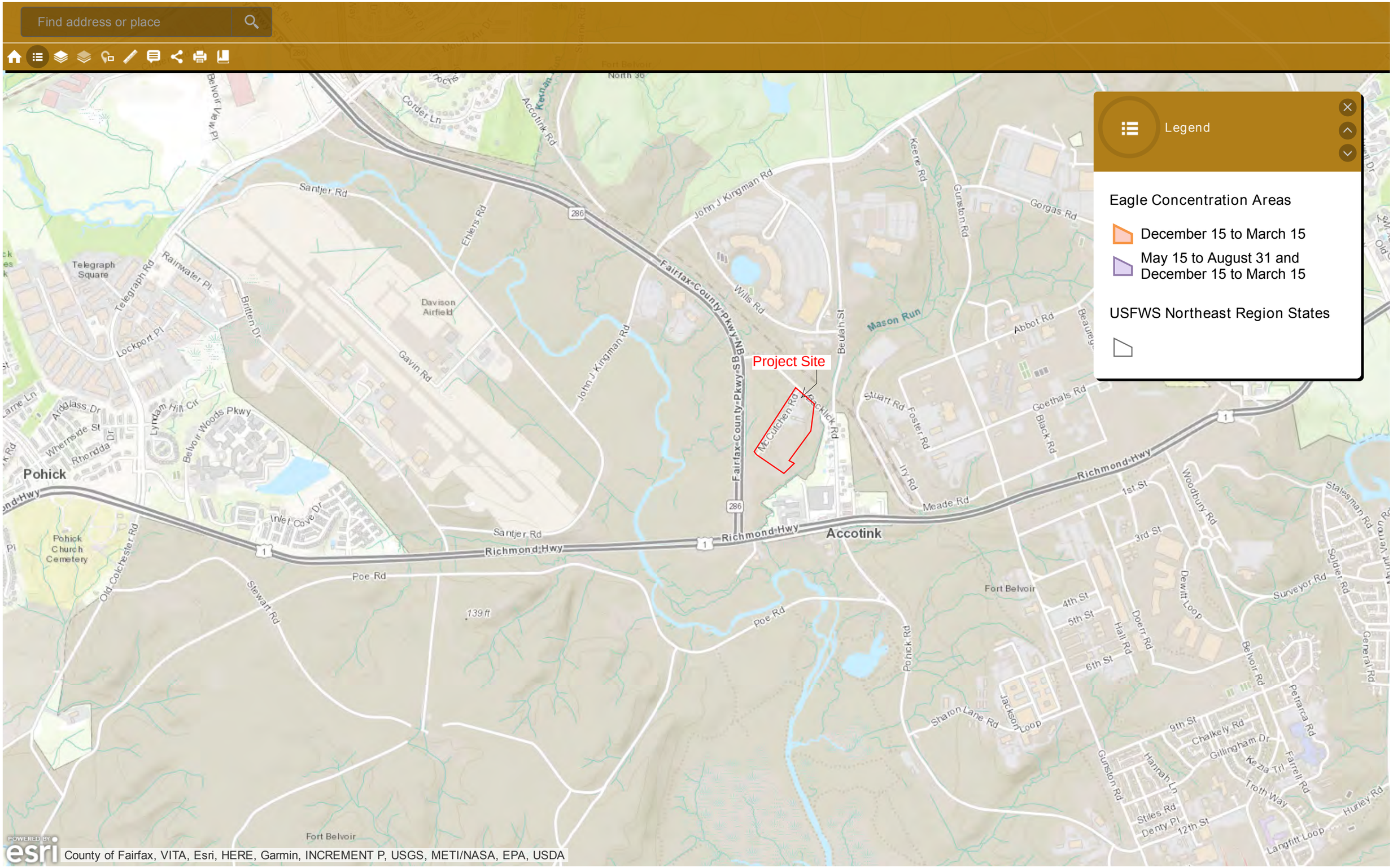


Layers: VA Eagle Nest Locator

Map Center [longitude, latitude]: [-77.15335177956149, 38.70487638828548]

Map Link:
http://www.ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&zoom=14&lat=38.70487638828548&lng=-77.15335177956149&legend=legend_tab_7c321b7e-e523-11e4-aaa0-0e0c41326911&base=Street+Map+%28OSM%29

Report Generated On: 05/02/2018


Find address or place
Legend
Eagle Concentration Areas
December 15 to March 15
May 15 to August 31 and December 15 to March 15
USFWS Northeast Region States
Project Site
Fairfax County Pkwy SB
Fairfax County Pkwy NB
Richmond Hwy
Accotink
Pohick
Fort Belvoir
Davison Airfield
Mason Run
Santjer Rd
John J Kingman Rd
Wills Rd
Poe Rd
Meade Rd
Ivy Rd
Stuart Rd
Foster Rd
Goethals Rd
Abbot Rd
Gunston Rd
Keene Rd
Gorgas Rd
Beulah St
Backlick Rd
McCutchen Rd
Ellers Rd
Accotink Rd
Gavin Rd
Britten Dr
Rainwater Pl
Telegraph Rd
Telegraph Square
Lockport Pl
Belvoir View Pl
Corder Ln
Inlet Cove Dr
Old Colchester Rd
Pohick Church Cemetery
Stewart Rd
Pohick Rd
Sharon Lane Rd
Jackson Loop
Hall Rd
Doerr Rd
Dewitt Loop
Woodbury Rd
Belvoir Rd
Surveyor Rd
Soldier Rd
Stalesman Rd
General Rd
Petrarca Rd
Farrell Rd
Hurley Rd
Langfitt Loop
Chalkley Rd
Gillingham Dr
Ke-zia Trl
Troth Way
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139 ft
286
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POWERED BY esri
County of Fairfax, VITA, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

Species Conclusions Table

Project Name: 911th Engineer Company Operations

Complex Date: August 21, 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Northern long-eared bat (*Myotis septentrionalis*)	Potential habitat present and no current survey conducted	No Effect/Not Likely to Adversely Affect	Implementing a TOYR (April 15 - Sept 15) for tree clearing that is not substantial acreage OR Survey conducted and no bats were documented.
Critical habitat	No critical habitat present	No effect	Action area is located in Fairfax County. Critical habitat is only located in Bland, Lee, Scott, Smyth, Russell, Tazewell, Washington, Wise, or Wythe counties in Virginia.
Bald eagle (*Haliaeetus leucocephalus*)	Unlikely to disturb nesting bald eagles. Does not intersect with an eagle concentration area	No Eagle Act permit required	No nests within 660' and not within a concentration area

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 8/24/2018

Self-Certification Letter

Project Name: 911th Engineer Company Operations Complex

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

Regulatory Agency Comments on the September 2018 Environmental Assessment

National Capital Planning Commission

401 9th Street, NW North Lobby, Suite 500 Washington, DC 20004 Tel 202.482.7200 Fax 202.482.7272 www.ncpc.gov

IN REPLY REFER TO:
NCPC File No. 8033

December 6, 2018

Mr. Felix Mariani
Chief of Environmental and Natural Resources Division VAFM-ENV
United States Army Garrison Fort Belvoir
Directorate of Public Works – Building 1442
9430 Jackson Loop
Fort Belvoir, Virginia 22060-5116

Re: 911th Engineer Company Complex – Draft EA Comments

Dear Mr. Mariani:

Thank you for the opportunity to comment on the draft Environmental Assessment (EA) for the new 911th Engineer Company Complex at Fort Belvoir on behalf of the National Capital Planning Commission (NCPC). As the federal government's planning agency in the National Capital Region, NCPC has advisory review authority over projects at Fort Belvoir under the National Capital Planning Act (40 USC § 8722 (b) (1)).[1] Please use the following staff comments, which are based on policies from the *Comprehensive Plan for the National Capital*, as guidance for further project design refinement and future project submissions to NCPC.

We support the need for a facility that will enable consolidation of the 911th Engineering Company's operations, with its important mission to respond to national emergencies within the National Capital Region (NCR). We recognize the project's intent to comply with Fort Belvoir's tree replacement policy and parking provision goal of 60% of the site's future employment population; however, we remain unclear about the rationale for the proposed complex's size and layout as shown in the draft EA concept plan (p. 12). The plan shows a sizable impervious area that does not have a readily discernible use, requiring removal of approximately 950 mature trees (with a diameter of ≥4-inches DBH), mostly along the site's eastern side. Although the tree removal would be mitigated, the environmental services provided by these mature trees will take years to replace. In addition, it is not clear that the location and size of the bioswale/rain garden areas would provide adequate stormwater management capacity to meet State and federal requirements.

As project development continues, the Army should confirm the need for the complex's expansive impervious area surrounding the equipment storage and maintenance buildings and assess whether there is a more efficient layout for the proposed use. Based on the information provided, it may be possible to redesign the complex to preserve adjacent forested areas, using more of the site's

[1] The Planning Act requires federal agencies to advise and consult with NCPC in the preparation of agency plans prior to preparation of construction plans.

existing cleared area to the south and/or designing the facility with a more compact footprint. Future tree replacement should be prioritized on-site as much as possible, with replacement trees planted near the site as an alternative.

We appreciate the opportunity to provide these draft EA comments and look forward to future submissions of the 911th Engineer Company Complex project for NCPC review. If you have any questions, please contact Michael Weil at (202) 482-7253 / michael.weil@ncpc.gov, or consult our Agency website (www.ncpc.gov/) for information regarding our Comprehensive Plan policies, review process, and/or submission guidelines.

Sincerely,

Diane Sullivan
Director, Urban Design and Plan Review Division

From: Theodore, Nora
To: USARMY Ft Belvoir IMCOM Atlantic Mailbox ENRD
Cc: Okorn, Barbara; Rudnick, Barbara
Subject: [Non-DoD Source] EA/FONSI 911th Engineer Company Complex Ft. Belvoir
Date: Thursday, December 6, 2018 9:09:54 AM

_____

Dear Mr. Mariani:

EPA has received and reviewed the Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) to evaluate potential environmental impacts associated with the Proposed Construction and Operation of the 911th Engineer Company Complex at Fort Belvoir. The purpose of the Proposed Action is to improve the ability of the 911th Engineer Company to operate more efficiently, improve functionality, and more quickly respond to mission-defined emergencies. EPA understands and appreciates the purpose and need of the proposed work. We have reviewed the EA in accordance with the National Environmental Policy Act (NEPA) of 1969, Section 309 of the Clean Air Act and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508). Based on our review, we have the following comments:

* Based on the information provided, it appears that the 300-linear foot impact to the ephemeral stream in the southwest corner of the McCutchen Road site could be avoided by minimal design alteration. As the project moves forward, EPA suggests that additional avoidance and minimization measures be investigated.
* As mentioned, though the stream and Resource Protection Area impacts associated with the Proposed Action appear to be minor, there may be cumulative impacts associated with the project. Please consider similar resource impacts in the area and their potential cumulative impact.
* It is unclear in the EA if there is the potential for contamination on site from aqueous film-forming foam including perfluorooctanoic acid and/or perfluorooctanesulfonic acid. If this contamination is present, it is suggested that management and disposal of these materials, as well as relevant information from soil and groundwater inspections, be shared with the public in a timely manner.
* The EA mentions that an off-Post site will be used for disposal of excess soils generated during construction. It should be noted that waste disposal locations should be in appropriate upland areas and not in aquatic resources.
* With the increase in impervious surface, EPA suggests innovative ways to promote water infiltration be considered wherever possible as part of the Proposed Action. As mentioned in the EA, vegetated swales and rain gardens are two techniques. Additional measures such as permeable pavement, bioretention areas, cisterns, and green roofs could also be considered. Technical guidance in implementing green infrastructure (GI) practices and LID can be found at:Caution-https://19january2017snapshot.epa.gov/sites/production/files/2015-09/documents/eisa-438.pdf < Caution-https://19january2017snapshot.epa.gov/sites/production/files/2015-09/documents/eisa-438.pdf > andCaution-www.epa.gov/greeninfrastructure < Caution-http://www.epa.gov/greeninfrastructure > .
* Although the EA states that other noises from the Davison Army Airfield and traffic on Richmond Highway dominate the noise environment, other construction-related noise mitigation efforts could be utilized. Specifically, EPA suggests close coordination with residents of Accotink Village related to the proposed jackhammering, and other potential construction noise to minimize objections to the unavoidable construction impacts.

We appreciate the opportunity to review this project. If you have questions regarding these comments, please contact me at any time.

Sincerely,

Nora Theodore

NEPA Reviewer

US Environmental Protection Agency, Region 3

Environmental Assessment & Innovation Division

Office of Environmental Programs

1650 Arch Street (3EA30)

Philadelphia, PA 19103

P: 215-814-2728

theodore.nora@epa.gov < Caution-mailto:theodore.nora@epa.gov >

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

February 15, 2019

Mr. Felix Mariani
Environmental Division
Directorate of Public Works, Building 1442
9430 Jackson Loop
Fort Belvoir, Virginia 22060

RE: Environmental Assessment and Federal Consistency Determination, Construction and Operation of the 911th Engineer Company Complex, Department of the Army, Fort Belvoir, Fairfax County, (DEQ 19-004F).

Dear Mr. Mariani:

The Commonwealth of Virginia has completed its review of the above-referenced document. The Department of Environmental Quality is responsible for coordinating Virginia's review of federal 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. This is in response to the September 2018 Environmental Assessment (EA) (received January 22, 2019) for the above-referenced project. In addition, the EA includes a Federal Consistency Determination (Appendix C) for the proposed action. The following agencies and locality participated in the review of this proposal:

Department of Environmental Quality
Marine Resources Commission
Department of Game and Inland Fisheries
Department of Health

In addition, the Department of Conservation and Recreation, Department of Historic Resources, Department of Agriculture and Consumer Services, Department of Forestry, Fairfax County, and the Northern Virginia Regional Commission were invited to comment on the proposal.

PROJECT DESCRIPTION

The Department of the Army (Army) at Fort Belvoir proposes to construct and operate the 911th Engineering Company Complex at the Army base in Fairfax County. The Proposed Action is to consolidate the 911th Engineer Company from its geographically dispersed and undersized facilities into a single new facility located at the approximately 10-acre McCutchen Road site located along Backlick Road on the North Post of Fort Belvoir. Under the Proposed Action, the 911th EC Complex would consist of

- a medium-sized Tactical Equipment Maintenance Facility (TEMF) designed in accordance with Unified Facilities Criteria (UFC) 4-214-02,
- an organizational equipment storage building,
- an organizational vehicle storage building,
- a petroleum, oil and lubricants (POL) storage building, and
- a company operations facility.

In addition to the construction of these buildings, an outdoor parking area would be constructed at the site. Prior to construction, two existing outdated and undersized buildings currently at the site and used by the 911th Engineer Company would be demolished.

CZMA FEDERAL CONSISTENCY CONCURRENCE

The EA includes a Federal Consistency Determination (FCD) (Appendix C) that includes an analysis of the consistency of the proposed project on the enforceable policies of the Virginia Coastal Zone Management (CZM) Program. 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 project as currently described is consistent to the maximum extent practicable with the enforceable policies of the Virginia CZM Program, provided all applicable permits and approvals are obtained as described below. In addition, in accordance with 15 CFR §930.39(c), DEQ recommends that the Army consider the impacts of the improvements on the advisory policies of the Virginia CZM Program found at https://www.deq.virginia.gov/Programs/EnvironmentalImpactReview/FederalConsistencyReviews.aspx#advisory.

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 FCD submitted for the proposal. Public notice of this proposed action was published in OEIR's Program Newsletter and on the DEQ website from January 24, 2019 through February 15, 2019. No public comments were received in response to the notice.

Supplemental Coordination

Pursuant to 15 CFR, Part 930, Subpart C, §930.46(a), the Army must submit supplemental information to DEQ for review and approval should the project affect any coastal uses or resources substantially different than described in the EA and FCD. Substantially different coastal effects include:

- substantial changes in the proposed activity that are relevant to Virginia CZM Program enforceable policies;
- significant new circumstances or information relevant to the proposed activity and the proposed activity's effect on any coastal use or resources;
- substantial changes that are made to the activity affecting enforceable policies and/or coastal uses or resources.

Accordingly, if necessary, a project-specific FCD must be submitted to DEQ for review and concurrence in accordance with the CZMA federal consistency regulations (15 CFR, Part 930, Subpart C, §930.30 *et seq*.).

Other state approvals which may apply to project activities are not included in this concurrence. Therefore, the Army must ensure that project activities are implemented in accordance with all applicable federal, state, and local laws and regulations.

CONCLUSION UNDER NEPA

Provided activities are performed in accordance with the recommendations which follow in the Environmental Impacts and Mitigation section of this report, this proposal 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. Surface Waters and Wetlands. According to the EA (page 34), the only surface water feature on site is an ephemeral stream channel of approximately 300 linear feet in length in the southwest corner of the study area. The EA (page 36) states that the ephemeral stream may be directly affected by the construction of the proposed complex and its perimeter fence. A joint permit application (JPA) would be filed to comply with Sections 404/401 of the Clean Water Act (CWA).

The document (page 35) states that approximately 2 acres of non-tidal wetlands, were identified within the study area. All wetlands within the study area were identified as palustrine forested wetlands and are located at the periphery of the study area. To avoid potential minor impacts, the construction contractor and operational staff would be prohibited from encroaching upon the wetland areas for any reason (EA, page 40).

1(a) Agency Jurisdiction.

(i) Department of Environmental Quality

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.

(ii) Virginia Marine Resources Commission

The Virginia Marine Resources Commission (VMRC) regulates encroachments on tidal wetlands pursuant to Virginia Code §28.2-1200 through 1400.

1(b) Agency Findings.

(i) Department of Environmental Quality

The VWP program at the DEQ Northern Regional Office (NRO) that a VWP permit from DEQ may be required should impacts to surface waters be necessary.

(ii) Virginia Marine Resources Commission

VMRC finds that the project has no foreseeable impact on tidal wetlands under its jurisdiction.

1(c) Requirements. The Army must coordinate this project with DEQ and the US Army Corps of Engineers. Upon receipt of a JPA for proposed surface water impacts, the VWP Permit staff at DEQ-NRO will review the proposed project in accordance with the VWP Permit program regulations and guidance. In addition, review by VMRC may be

required under the JPA process should the project change and impacts to tidal wetlands under its jurisdiction are proposed.

1(d) Recommendations. In general, DEQ recommends that stream and wetland impacts be avoided to the maximum extent practicable. To minimize unavoidable impacts to wetlands and waterways, DEQ recommends the following practices:

- Operate machinery and construction vehicles outside of stream-beds and wetlands; use synthetic mats when in-stream work is unavoidable.
- Preserve the top 12 inches of trench material removed from wetlands for use as wetland seed and root-stock in the excavated area.
- Design erosion and sedimentation controls in accordance with the most current edition of the Virginia Erosion and Sediment Control Handbook. These controls should be in place prior to clearing and grading, and maintained in good working order to minimize impacts to State waters. The controls should remain in place until the area is stabilized.
- Place heavy equipment, located in temporarily impacted wetland areas, on mats, geotextile fabric, or use other suitable measures to minimize soil disturbance, to the maximum extent practicable.
- Restore all temporarily disturbed wetland areas to pre-construction conditions and plant or seed with appropriate wetlands vegetation in accordance with the cover type (emergent, scrub-shrub, or forested). The applicant should take all appropriate measures to promote revegetation of these areas. Stabilization and restoration efforts should occur immediately after the temporary disturbance of each wetland area instead of waiting until the entire project has been completed.
- Place all materials which are temporarily stockpiled in wetlands, designated for use for the immediate stabilization of wetlands, on mats, geotextile fabric in order to prevent entry in State waters. These materials should be managed in a manner that prevents leachates from entering state waters and must be entirely removed within thirty days following completion of that construction activity. The disturbed areas should be returned to their original contours, stabilized within thirty days following removal of the stockpile, and restored to the original vegetated state.
- Flag or clearly mark all non-impacted surface waters within the project or right-of-way limits that are within 50 feet of any clearing, grading, or filling activities for the life of the construction activity within that area. The project proponent should notify all contractors that these marked areas are surface waters where no activities are to occur.
- Employ measures to prevent spills of fuels or lubricants into state waters.

Any necessary future coordination with VMRC may be directed to Mark Eversole at (757) 247-8028 or mark.eversole@mrc.virginia.gov.

2. State Subaqueous Lands. According to the EA (page 38), part of the ephemeral stream in the southwest corner of the McCutchen Road site may be directly affected by

the construction of the proposed complex and its perimeter fence. The Army anticipates submitting a JPA to ensure compliance.

2(a) Agency Jurisdiction. The Virginia Marine Resources Commission (VMRC) regulates encroachments in, on or over state-owned subaqueous beds as well as tidal wetlands pursuant to Virginia Code §28.2-1200 through 1400. For nontidal waterways, VMRC states that it has been the policy of the Habitat Management Division to exert jurisdiction only over the beds of perennial streams where the upstream drainage area is 5 square miles or greater. The beds of such waterways are considered public below the ordinary high water line.

2(b) Agency Findings. VMRC staff finds that the project has no foreseeable impact on the subaqueous lands under its jurisdiction.

2(c) Requirement. Should the proposed project change, additional review by VMRC may be required for potential project impacts on state subaqueous lands.

Questions or further coordination may be directed to VMRC, Mark Eversole at (757) 247-8028 or mark.eversole@mrc.virginia.gov.

3. Erosion and Sediment Control and Stormwater Management. According to the EA (page 38), potential water quality impacts would be minimized through compliance with the terms of Fort Belvoir's MS4 Permit (VAR040093). Under the terms of the permit, projects that disturb more than one acre of land are required to prepare and implement an Erosion and Sedimentation Control (ESC) plan as well as a stormwater management (SWM) plan to be reviewed and approved by Fort Belvoir's Department of Public Works (DPW) and by DEQ.

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

- Virginia Erosion and Sediment Control (ECS) Law (§ 62.1-44.15:51 *et seq*.) and Regulations (9 VAC 25-840);
- Virginia Stormwater Management Act (§ 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 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 (9 VAC 25-890-40).

3(b) Requirements. DEQ-OSWM did not respond to the request for comments for this proposal. However, based on responses to previous projects at Fort Belvoir, regulatory guidance for the control of nonpoint source pollution is presented below.

(i) Erosion and Sediment Control and Stormwater Management Plans

The Army 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 2,500 square feet in Chesapeake Bay Preservation Area would be regulated by *VESCL&R*. Accordingly, the Army 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 Army 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 VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10)

The operator or owner of a construction project involving land-disturbing activities equal to or greater than one acre is required to register for coverage under the VAR10 permit and develop a project-specific stormwater pollution prevention plan. The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit, and it 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*.].

3(c) Recommendations. DEQ-NRO recommends the use of permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work.

4. Chesapeake Bay Preservation Areas. According to the document (page 22), approximately 1.6 acres of resource protection area (RPA) would be affected. Much of affected RPA is already disturbed and is not vegetated. However, approximately 0.4 acre of the affected RPA is currently vegetated. The clearing of this part of the RPA to construct the proposed complex would be an adverse impact on the RPA. Vegetation

removed from the RPA would be replaced consistent with the Department of Conservation and Recreation's *Riparian Buffers Modification and Mitigation Guidance Manual* and applicable Fort Belvoir Draft Guidance.

4(a) Agency Jurisdiction. The DEQ Office of Local Government Programs (OLGP) 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.

4(b) Agency Comments. DEQ-OLGP notes that the areas protected by the Chesapeake Bay Preservation Act, as locally implemented in Fairfax County, require conformance with performance criteria. These areas include 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, which require less stringent performance criteria, include those areas of the county not included in the RPAs.

4(c) Agency Findings. DEQ-OSWM finds that the proposed project will result in land disturbance on lands analogous to locally designated RPA and RMA. Figure 4, *Wetlands and Streams at the McCutchen Road Site* (EA, page 8) shows Mason Run immediately east of the project site and numerous non-tidal wetlands to the west and south of the site. Most of the proposed construction activities will occur on previously developed land.

4(d) Requirements.

(i) Performance Criteria

In general, development in areas analogous to RPA and RMA is subject to general

performance criteria found in 9 VAC 25-830-130 and 140 of the *Regulations*, including requirements to:

- minimize land disturbance (including access and staging areas);
- retain indigenous vegetation; and
- minimize post-development impervious surfaces.

For land disturbance over 2,500 square feet, the project must comply with:

- the requirements of the *Virginia Erosion & Sediment Control Handbook*, *Third Edition, 1992*; and
- stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations* (9 VAC 25-870-10).

Furthermore, 9 VAC 25-830-140 of the *Regulations* allows development on lands analogous to RPA if the development activities constitute redevelopment.

(ii) RPA Determination

The *Regulations* (9 VAC 25-830-110) require that a site-specific evaluation is conducted to determine whether there are water bodies on or near the development site, and that RPA boundaries are adjusted based on the results of the evaluation. The site-specific evaluation is particularly important for this project to ensure that no new land development occurs on lands analogous to RPA. Please note that 9 VAC 25-830-140 3 stipulates that "Notwithstanding permitted uses, encroachments, and vegetation clearing…the 100-foot wide [RPA] area is not reduced in width."

4(e) Conclusion. DEQ-OLGP concludes that, provided adherence to the above requirements, the proposed activity would be consistent with the Bay Act and the *Regulations*.

5. Air Pollution Control. The EA (page 27) finds that the total estimated emissions for construction of the Proposed Action would be below the General Conformity Rules *de minimis* thresholds. The document concludes that construction would have a short-term, direct, minor, adverse impact on air quality. Emissions from operational activities are anticipated to similar to or lower than emissions generated at the three facilities currently utilized by the 911th Engineer Company.

5(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.

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.*

5(b) Agency Findings. According to the DEQ Air Division, the project site is located in a designated ozone nonattainment area and an emission control area for the control of oxides of nitrogen (NO_x) and volatile organic compounds (VOCs).

5(c) Recommendation. The Army should take all reasonable precautions to limit emissions of NO_x and VOCs, principally by controlling or limiting the burning of fossil fuels.

5(d) Requirements.

(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) Asphalt Paving

In accordance with 9 VAC 5-45-780, there are limitations on the use of "cut-back" (liquefied asphalt cement, blended with petroleum solvents) that may apply to paving activities associated with the project. Moreover, there are time-of-year restrictions on its use during the months of April through October in VOC emission control areas.

(iii) Open Burning

If project activities include the open burning of construction material or the use of special incineration devices, this activity must meet the requirements under 9 VAC 5-130 *et seq.* of the *Regulations* for open burning, and may require a permit. The *Regulations* provide for, but do not require, the local adoption of a model ordinance concerning open burning. The applicant should contact Fairfax County fire officials to determine what local requirements, if any, exist.

(iv) Fuel Burning Equipment

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

6. Solid and Hazardous Wastes and Hazardous Materials. According to the EA (page 62), there are residual chemical concentrations present where a chemical storage shed was previously located southwest of Building 2476. The site stored two 55-gallon drums containing waste petroleum, oil, and lubricants (POL) and antifreeze. Fort Belvoir is currently performing additional soil sampling at the site (Solid Waste Management Unit (SWMU) MP-14), to further delineate the nature and extent of chemical contaminants in the soil. Should the results of the investigation of SWMU MP-14 indicate that remediation of environmental media is required, Fort Belvoir would perform and complete the necessary remediation prior to initiation of construction activities for the Proposed Action (EA, page 63).

6(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. 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.

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*.

6(b) Agency Findings. DEQ-DLPR conducted a search of the project area (1,000-foot radius) of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project site. The search did not identify any waste sites which might impact the project. In addition, a search of the project zip code (22060) did not identify waste sites of possible concern.

6(c) Requirements.

(i) Solid and Hazardous 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. All construction waste must be characterized in accordance with the *Virginia Hazardous Waste Management Regulations* prior to management at an appropriate facility.

(ii) Petroleum Contamination

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

(iii) Petroleum Storage Tanks

The removal, relocation or closure of any regulated petroleum storage tanks, either an aboveground storage tank (AST) or an underground storage tank (UST), must be conducted in accordance with the requirements of the Virginia Tank Regulations 9 VAC 25-91-10 *et seq*. (AST) and/or 9 VAC 25-580-10 *et seq*. (UST). Documentation must be submitted DEQ-NRO.

The installation and operation of regulated petroleum ASTs or USTs must be conducted in accordance with 9 VAC 25-91-10 *et seq*. and/or 9 VAC 25-580-10 *et seq*. Furthermore, the installation and use of ASTs with a capacity of greater than 660

gallons for temporary fuel storage (>120 days) during construction must follow the requirements in 9 VAC 25-91-10 *et seq*.

(iv) Asbestos-Containing Materials and Lead-Based Paint

All structures being demolished, renovated, or removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9 VAC 20-81-620 (ACM) and 9 VAC 20-60-261 (LBP) must be followed. Questions may be directed to at the DEQ-NRO, Richard Doucette at (703) 583-3800 or richard.doucette@deq.virginia.gov.

6(d) Recommendation. 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.

Questions or requests for further information regarding the above waste comments may be directed to DEQ-DLPR, Carlos Martinez at (804) 698-4575 or carlos.martinezz@deq.virginia.gov.

7. 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.

8. Wildlife Resources and Protected Species. According to the EA (page 52), tree clearing would result in the loss of some potential summer habitat for the Northern long-eared bat, Little brown bat, and Tri-colored bat. In addition, the site contains potentially suitable and marginal wood turtle terrestrial habitat, some of which would be cleared to construct the proposed 911th EC Complex. The loss of trees and shrubs would be mitigated in accordance with Fort Belvoir's Tree Removal and Protection Policy. Applying the 2:1 ratio for trees ≥4-inches diameter at breast height (DBH), and the 1:1 ratio for trees <4-inches DBH and shrubs ≥3-feet high, approximately 980 trees ≥4-inches DBH, 358 trees <4-inches DBH, and 8 shrubs ≥3-feet high would be planted on-post in a designated location.

8(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*.

8(b) Agency Findings. According to DGIF, Accotink Creek has been designated a Threatened and Endangered Species Water due to the presence of state-listed Threatened Wood turtle and is also designated a Confirmed Anadromous Fish Use Area. DGIF documents the presence of the state-listed Endangered Tri-colored bat from the project area. It appears, based on the EA (Section 4.2, *Best Management Practices and Mitigation Measures*), that the Army intends to adhere to a tree removal time-of-year restriction protective of the federal-listed Threatened Northern long eared bat, which DGIF concurs will minimize impacts upon this species. It also appears the Army intends to adhere to a time-of-year restriction protective of Wood turtles in the areas identified as suitable and marginal Wood turtle upland habitat. Assuming the project moves forward in adherence to the best management practices (BMPs) and mitigation measures described in the EA, DGIF does not anticipate the project to result in significant adverse impacts upon listed species or resources under its jurisdiction.

8(c) Recommendations.

(i) Wood Turtle

DGIF recommends that, prior to the commencement of work, all contractors be made aware of the possibility of encountering Wood turtles on site and become familiar with their appearance, status and life history. An appropriate information sheet to distribute to contractors and employees is attached. If any Wood turtles are encountered and are in jeopardy during the development or construction of this project, immediately remove them from danger and move them safely to suitable habitat in or near the closest perennial stream. Any relocations should be reported to the DGIF Region I Terrestrial Biologist, J.D. Kleopfer at (804) 829-6580 and the attached Wood turtle observation form should be completed and faxed to Mr. Kleopfer at (804) 829-6788. Further information on Wood turtles may be found at:
https://www.dgif.virginia.gov/wildlife/information/wood-turtle/.

(ii) General Protection of Wildlife Resources

DGIF offers the following recommendations to minimize overall impacts to wildlife and natural resources:

- 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 burlap 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 (i.e. rain gardens) and grass swales are components of Low Impact Development (LID). They capture stormwater runoff as close to the source as possible, allow it to slowly infiltrate into the surrounding soil, and benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

(iii) Fort Belvoir Integrated Natural Resources Management Plan

DGIF recommends adherence to the currently approved Fort Belvoir Integrated Natural Resources Management Plan.

(iv) Additional Coordination

If the project does not move forward as described, DGIF recommends the Army coordinate with agency staff and the U.S. Fish and Wildlife Service (USFWS).

(v) Natural Heritage Resources

DGIF recommends the Army coordinate with the Department of Conservation and Recreation (DCR) Natural Heritage Resources (DNH) since the project site is located within 2 miles of a documented occurrence of a state- or federal-listed Threatened or Endangered plant or insect species and/or other natural heritage species.

9. Historic and Archeological Resources. According to the EA (page 29), there are no archaeological sites within the McCutchen Road site; therefore, construction of the proposed 911th EC Complex would not affect archaeological resources. Construction of the Proposed Action would not affect any National Register of Historic Places (NRHP)-listed properties and would have no impact on cultural resources.

9(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.

9(b) Agency Findings. DHR confirms that the Army previously coordinated this project with agency staff pursuant to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800. DHR concurred with the Army that the proposed undertaking will have No Adverse Effect on historic properties.

For additional information, contact DHR, Marc Holma at (804) 482-6090.

10. Public Water Supply. According to the EA (page 13), water is supplied to Fort Belvoir by Fairfax County. A new 6-inch, ductile iron line and a new 2-inch rigid polyvinyl chloride (RPVC) line would be installed. The EA does not indicate that the Accotink Creek watershed is a public water supply source.

10(a) Agency Jurisdiction. The 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.

10(b) Agency Findings. VDH-ODW concludes that there are no apparent impacts to public drinking water sources due to this project.

For additional information, contact VDH-ODW, Arlene Fields Warren at (804) 864-7781.

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

11(a) Recommendations. We have several pollution prevention recommendations that may be helpful in the construction of this project and in the operation of the development:

- Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the Army is committed to minimizing its environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and it recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program.
- 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 (such as an EMS) 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 infrastructure construction and design. These could include asphalt and concrete containing recycled materials, and integrated pest management in landscaping, among other things.
- Integrate pollution prevention techniques into utility maintenance and operation, to include the following: inventory control (record-keeping and centralized storage for hazardous materials), product substitution (use of non-toxic cleaners), and source reduction (fixing leaks, energy-efficient HVAC and equipment). Maintenance facilities should be designed with sufficient and suitable space to allow for effective inventory control and preventative maintenance.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. For more information, contact DEQ's Office of Pollution Prevention, Meghann Quinn at (804) 698-4021.

12. Energy Conservation. The development should be planned and designed to comply with state and federal guidelines and industry standards for energy conservation and efficiency. The commonwealth encourages architectural and engineering designers to recognize and incorporate the energy, environmental, and sustainability concepts listed in the Leadership in Energy and Environmental Design (LEED) Green Building Rating System into the development and procurement of their projects.

The energy efficiency of the facility 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;
- high efficiency lighting systems and daylighting techniques; and
- energy-efficient appliances.

Contact the Department of Mines, Minerals and Energy, David Spears at (434) 951-6350, for assistance in meeting this challenge.

13. Water Conservation. The following recommendations will result in reduced water use associated with the operation of the development:

- 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 in new facilities.
- 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.
- Use new high-efficiency washers and dishwashers to reduce water usage by 30-50% per use.

Check for and repair leaks (toilets and faucets) during regular routine maintenance activities.

REGULATORY AND COORDINATION NEEDS

1. Surface Waters and Wetlands. Surface water and wetland impacts associated with this proposal may require a VWP Permit issued by the DEQ-NRO pursuant to Virginia Code §62.1-44.15:20. A Joint Permit Application may be obtained from and submitted to the VMRC which serves as a clearinghouse for the joint permitting process involving the VMRC, DEQ, Corps, and local wetlands boards. For additional information and coordination, contact DEQ-NRO, Trisha Beasley at (703) 583-3940.

2. Erosion and Sediment Control and Stormwater Management.

2(a) Erosion and Sediment Control and Stormwater Management. This project 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. 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.

2(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.

3. Chesapeake Bay Preservation Areas. The project must be conducted in a manner which is consistent with the coastal lands management enforceable policy of the CZM program which is governed by the requirements of the *Chesapeake Bay Preservation Act* (Virginia Code §§ 10.1-2100 through 10.1-2114) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (Virginia Code 9 VAC 25-830-10 *et seq*.). The proposed project is subject to the general performance criteria of 9 VAC 25-830-130 for construction in lands analogous to RPA and RMA. In addition, under 9 VAC 25-830-110, a site-specific evaluation should be performed to determine the exact location of RPA boundaries. For additional information and coordination, contact DEQ-OLGP, Daniel Moore at (804) 698-4520.

4. Air Quality Regulations. This project is subject to air regulations administered by the Department of Environmental Quality. The following sections of the Code of Virginia and Virginia Administrative Code are applicable:

- asphalt paving operations (9 VAC 5-45-780 *et seq*.)
- fugitive dust and emissions control (9 VAC 5-50-60 *et seq*.); and
- open burning restrictions (9 VAC 5-130).

The installation of fuel burning equipment (e.g. boilers and generators), may require a permit (9 VAC 5-50-10 *et seq.* and 9 VAC 5-80-10 *et seq.*) prior to construction. Also, contact Fairfax County fire officials for information on any local requirements pertaining to open burning. For more information and coordination contact DEQ-NRO, James LaFratta at (703) 583-3928.

5. Solid and Hazardous Wastes. 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(a) Asbestos-Containing Material. The owner or operator of a demolition activity, prior to the commencement of the activity, is responsible to thoroughly inspect affected structures for the presence of asbestos, including Category I and Category II nonfriable asbestos containing material (ACM). Upon classification as friable or non-friable, all waste ACM shall be disposed of in accordance with the Virginia Solid Waste

Management Regulations (9 VAC 20-80-640), and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 et seq.). Contact the DEQ-NRO, Richard Doucette at (703) 583-3813 or richard.doucette@deq.virginia.gov and the Department of Labor and Industry, Doug Wiggins (540) 562-3580 ext. 131 for additional information.

5(b) Lead-Based Paint. This project must comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations. For additional information regarding these requirements contact the Department of Professional and Occupational Regulation at (804) 367-8500.

5(c) Petroleum Contamination. In accordance with Virginia Code §§ 62.1-44.34.8 through 9 and 9 VAC 25-580-10 *et seq*., site activities involving excavation or disturbance of petroleum contaminated soils and or groundwater must be reported to DEQ-NRO, Richard Doucette at (703) 583-3813 or richard.doucette@deq.virginia.gov.

5(d) Petroleum Storage Tank Compliance and Inspection. The installation and use of an AST of greater than 660 gallons for temporary fuel storage of more than 120 days must comply with the requirements in 9 VAC 25-91-10 *et seq*. Contact DEQ-NRO, Richard Doucette at (703) 583-3813 or richard.doucette@deq.virginia.gov.

7. Wildlife Resources and Protected Species. Contact DGIF, Amy Ewing at (804) 367-2211 for the development of project-specific measures to minimize project impacts upon wildlife resources.

7(a) Natural Heritage Resources. Contact DCR-DNH, Rene Hypes at (804) 371-2708, to secure updated information on natural heritage resources if the scope of the project changes and/or six months passes before the project is implemented, since new and updated information is continually added to the Biotics Data System.

Thank you for the opportunity to review the Environmental Assessment and Federal Consistency Determination for the 911th Engineer Company Complex in Fairfax 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: Tony Watkinson, VMRC
Amy Ewing, DGIF
Robbie Rhur, DCR
Arleen Warren, VDH
Keith Tignor, VDACS
Greg Evans. DOF
Roger Kirchen, DHR
Denise James, Fairfax County
Robert Lazaro, NVRC

Commonwealth of Virginia

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

ESSLog# 39608_19-004F_911thEngineer@Belvoir_DGIF_AME20190208

1 message

Ewing, Amy <amy.ewing@dgif.virginia.gov> Fri, Feb 8, 2019 at 2:58 PM
To: John Fisher <john.fisher@deq.virginia.gov>
Cc: John Kleopfer <John.Kleopfer@dgif.virginia.gov>

John,
We have reviewed the subject project that proposes to centralize operations at Ft. Belvoir by redeveloping and expanding a site near Accotink Village on Ft. Belvoir. This will require clearing of approximately 2 acres of currently forested riparian land adjacent to Accotink Creek. Accotink Creek at this site has been designated a Threatened and Endangered Species Water due to the presence of state Threatened wood turtles and also is designated a Confirmed Anadromous Fish Use Area. We document state Endangered tri-colored bats from the project area.

It appears, based on the information provided in Section 4.2, *Best Management Practices and Mitigation Measures,* that the Army intends to adhere to the tree removal time of year restriction protective of federal threatened northern long eared bats, which we agree also minimizes impacts upon this species. It also appears the Army intends to adhere to the time of year restriction protective of wood turtles in the areas identified as suitable and marginal wood turtle upland habitat. Assuming the project moves forwards in adherence to the BMPs and mitigation measures described in section 4.2, we do not anticipate this project to result in significant adverse impacts upon listed species or resources under our jurisdiction. We do, however, recommend that prior to the commencement of work all contractors associated with work at this site be made aware of the possibility of encountering wood turtles on site and become familiar with their appearance, status and life history. An appropriate information sheet to distribute to contractors and employees is attached. If any wood turtles are encountered and are in jeopardy during the development or construction of this project, immediately remove them from danger and move them safely to suitable habitat in or near the closest perennial stream. Any relocations should be reported to J.D. Kleopfer, VDGIF Region I Terrestrial Biologist, at 804-829-6580 and the attached wood turtle observation form should be completed and faxed to JD at 804-829-6788.

Further information about wood turtles can be found online at: https://www.dgif.virginia.gov/wildlife/information/wood-turtle/

If the project cannot move forward as described, we recommend additional coordination with us and the USFWS. We recommend adherence to the currently approved Integrated Natural Resources Management Plan for Ft. Belvoir.

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 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 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 is located within 2 miles of a documented occurrence of a state or federal threatened or endangered plant or insect species and/or other Natural Heritage coordination species. Therefore, we recommend coordination with VDCR-DNH regarding the protection of these resources.

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

Thanks, Amy

Amy Ewing
Environmental Services Biologist
Manager, Fish and Wildlife Information Services
P 804.367.2211
Virginia Department of Game & Inland Fisheries
CONSERVE. CONNECT. PROTECT.
A 7870 Villa Park Drive, P.O. Box 90778, Henrico, VA 23228
www.dgif.virginia.gov

2 attachments

WoodTurtle_2014.pdf
52K

WoodTurtle_ObsForm_2014.pdf
282K

WOOD TURTLE (*Glyptemys insculpta*)

A Virginia *Threatened* Species

Note the sculptured scales of the top of shell (carapace).

Bottom view (plastron) of a male wood turtle. The concaved plastron is characteristic of a male. Note the distinct black markings and the brightly colored legs and tail.

Wood turtles, a state Threatened species, may be found in or near this project area. Wood turtles are medium-sized (6-9 inches adult shell length) semi-terrestrial turtles found in streams or in riparian uplands. The dull brown upper shell is very rough, and each section of the shell reflects growth rings that form an irregular pyramid. There is great variation in this trait, however, and the upper shell of older turtles may appear smooth. The bottom shell is yellow with black marginal blotches. Wood turtles have a black head, and dark brown extremities with characteristic yellow to burnt-orange skin patches on the neck and leg sockets. Wood turtles that are found in an instream construction area should be carefully relocated downstream to safety in suitable habitat (a run or deep pool with sandy or muddy bottom and submerged roots, branches, or logs). Wood turtles found within the project area uplands during construction should be relocated within the same watershed, approximately ¼ to ½ mile downstream of their original location. It is a violation of Virginia law to harm or to possess a wood turtle. If you have any questions concerning wood turtles, please contact John Kleopfer of the Virginia Department of Game and Inland Fisheries (804-829-6703; John.Kleopfer@dgif.virginia.gov).

THE WOOD TURTLE IS A PROTECTED SPECIES IN VIRGINIA: IT IS UNLAWFUL TO HARM, COLLECT, OR POSSESS THESE TURTLES.

WOOD TURTLE
FIELD OBSERVATION FORM

The Virginia Department of Game and Inland Fisheries needs your help in monitoring Wood Turtle (*Glyptemys insculpta*) populations. If you encounter a Wood Turtle, please provide the information requested below and mail or FAX this form to:

Virginia Department of Game and Inland Fisheries
Attn: John Kleopfer
3801 J.T. Memorial Highway
Charles City, Virginia 23030
FAX 804-829-6788

If possible, send digital photos to: John.Kleopfer@dgif.virginia.gov

Distribution: The Wood Turtle is found primarily in the northeastern United States and parts of southeastern Canada, reaching the southern limit of its range in northern Virginia. In Virginia, it has been documented in Warren, Rockingham, Shenandoah, Frederick, Loudoun, Fairfax, Clark, and Page counties. It is not widely distributed, however, within these counties.

Species Descriptions (also see photos on the back of this sheet):

WOOD TURTLE: This semi-aquatic turtle usually is found in or near streams, but not in ponds, reservoirs, or lakes. The shell length of an adult Wood Turtle can reach 9 inches. The plastron (bottom-half of the shell) is NOT hinged and the carapace (top-half of the shell) is flattened. The legs and tail are usually reddish to orange in color. Females are sometimes less colorful.

EASTERN BOX TURTLE (*Terrapene carolina carolina*): This terrestrial (land-dwelling) species seldom is found in water, but is often misidentified as a Wood Turtle. The Eastern Box Turtle has a high domed shell and a hinged plastron, which allows for it to completely enclose itself. The shell length of an adult is rarely over 5 inches.

Your name: _____

Your address: _____

Your phone number (optional): _____

Location of observation (GPS coordinates, if possible). Include name of the nearest stream.

_____

_____

_____

Comments: _____

THE WOOD TURTLE IS A PROTECTED SPECIES IN VIRGINIA: IT IS UNLAWFUL TO HARM, COLLECT, OR POSSESS THESE TURTLES.

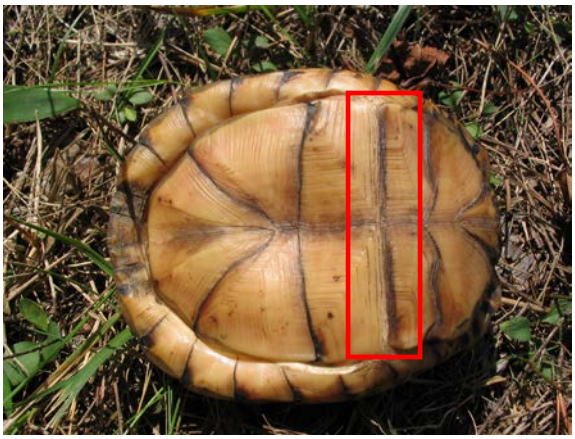
WOOD TURTLE

Note the sculptured scales of the top of shell (carapace).

Bottom view (plastron) of a male Wood Turtle. The concaved plastron is characteristic of a male. Note the distinct black markings and the brightly colored legs and tail.

EASTERN BOX TURTLE

Note the high domed shell and lack of sculptured scales. Males usually have an orange or yellowish face and legs and are more brightly colored in comparison to females.



Note the hinged plastron and no markings. The concaved plastron is also characteristic of male box turtles.

The plastron of Eastern Box Turtles will often turn black.

Unlike Wood Turtles, box turtles can completely enclose themselves for protection.

Commonwealth of Virginia

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

construction and operation of 911th Engineer Company complex at Fort Belvoir (DEQ #19-004F; DHR #2018-0698)

1 message

Holma, Marc <marc.holma@dhr.virginia.gov> Wed, Jan 23, 2019 at 11:05 AM
To: John Fisher <john.fisher@deq.virginia.gov>

John,

Please let this email be DHR's official response to DEQ's request for our review and comment on the above referenced project. The Army previously consulted with DHR on this undertaking pursuant to section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800. At that time, we concurred with the Army that the undertaking will have No Effect on historic properties. No additional consultation in the Army's part is necessary unless the scope of work changes.

Sincerely,
Marc

--
Marc Holma
Architectural Historian
Division of Review and Compliance
(804) 482-6090
marc.holma@dhr.virginia.gov

Commonwealth of Virginia

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

Re: NEW PROJECT ARMY 911th Engineer Co. Complex, DEQ #19-004F

1 message

Warren, Arlene <arlene.warren@vdh.virginia.gov> Wed, Feb 13, 2019 at 12:09 PM
To: John Fisher <john.fisher@deq.virginia.gov>

Project Name: Proposed Construction and Operation of the 911th Engineer Company Complex, Fort Belvoir
Project #: 19-004 F
UPC #: N/A
Location: Fairfax County

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). Potential impacts to public water distribution systems or sanitary sewage collection systems **must be verified by the local utility.**

There are no public groundwater wells within a 1-mile radius of the project site.

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.

There are no apparent impacts to public drinking water sources due to this project.

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

Best Regards,

Arlene Fields Warren

GIS Program Support Technician

Office of Drinking Water

Virginia Department of Health

109 Governor Street

Richmond, VA 23219

(804) 864-7781

On Tue, Jan 22, 2019 at 4:36 PM Fulcher, Valerie <valerie.fulcher@deq.virginia.gov> wrote:

> **Good afternoon - this is a new OEIR review request/project:**
>
> **Document Type: EA/Federal Consistency Determination**
> **Project Sponsor: Department of the Army**

Project Title: Proposed Construction and Operation of the 911th Engineer Company Complex, Fort Belvoir
Location: Fairfax County
Project Number: DEQ #19-004F

The document is available at www.deq.virginia.gov/fileshare/oeir in the ARMY folder.

The due date for comments is FEBRUARY 15, 2019. You can send your comments either directly to JOHN FISHER by email (John.Fisher@deq.virginia.gov), or you can send your comments by regular interagency/U.S. mail to the Department of Environmental Quality, Office of Environmental Impact Review, 1111 East Main St., Richmond, VA 23219.

NOTE: The Army has requested an expedited review. Please submit comments as soon as possible.

If you cannot meet the deadline, please notify the project coordinator prior to the comment due date. Arrangements may be made to extend the deadline for comments if possible. An agency will be considered to have no concerns if comments are not received (or contact is made) within the review period. However, it is important that agencies consistently participate in accordance with Virginia Code Section 10.1-1192.

REVIEW INSTRUCTIONS:

A. Please review the document carefully. If the proposal has been previously reviewed (e.g. as a draft EIS or a Part 1 EIR), please consider whether your earlier comments have been adequately addressed.

B. Prepare your agency's comments in a form which would be acceptable for responding directly to a project proponent agency (agency stationary or email) and include the project number on all correspondence.

If you have any questions, please email John.

Thanks!

Valerie

--

Valerie A. Fulcher, CAP, OM, Environmental Program Specialist

Department of Environmental Quality

Environmental Enhancement - Office of Environmental Impact Review

1111 East Main Street

Richmond, VA 23219

804/698-4330

804/698-4319 (Fax)

email: Valerie.Fulcher@deq.virginia.gov

http://www.deq.virginia.gov/Programs/EnvironmentalImpactReview.aspx

COMMONWEALTH of VIRGINIA

Marine Resources Commission
380 Fenwick Road
Bldg 96
Fort Monroe, VA 23651-1064

Matthew J. Strickler
Secretary of Natural Resources

Steven G. Bowman
Commissioner

February 7, 2019

Department of Environmental Quality
Attn: John Fisher
1111 East Main St.
Richmond, VA 23219

Re: EA/Federal Consistency Determination
911th Engineer Company Complex, Fort Belvoir

Dear Mr. Fisher:

This will respond to the request for comments regarding the Environmental Assessment and Federal Consistency Determination for the Proposed Construction and Operation of the 911th Engineer Company Complex, Fort Belvoir project (DEQ #19-004F), prepared by the United States Army Corps of Engineers Baltimore District, on behalf of the Department of the Army. Specifically, the proposed action would consolidate the 911th Engineer Company facilities at the McCutchen Road site into a single complex at Fort Belvoir in Fairfax County, Virginia. The current facilities do not meet the Department of Defense United Facilities Criteria 4-214-02 requirements for a medium sized Tactical Equipment Maintenance Facility.

Please be advised that the Marine Resources Commission (Commission) pursuant to Chapter 12, 13, & 14 of Title 28.2 of the Code of Virginia administers permits required for submerged lands, tidal wetlands, and beaches and dunes. The Commission administers the enforceable policies of fisheries management, subaqueous lands, tidal wetlands, and coastal primary sand dunes and beaches which comprise some of Virginia's Coastal Zone Management Program. This project has no foreseeable impact on the Commission's enforceable policies or our jurisdictional areas. As proposed, we have no objection to the consistency findings provided by the applicant and the project will not require a permit from this agency. Should the proposed project change, a new review by this agency may be required relative to these jurisdictional areas. Should you have any questions please contact me at (757) 247-8028 or by email at mark.eversole@mrc.virginia.gov. Thank you for the opportunity to comment.

Sincerely,

Mark Eversole
Environmental Engineer, Habitat Management

MCE/lrp
HM

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: John E. Fisher **DEQ - OEIR PROJECT NUMBER: DEQ #19-004F**

PROJECT TYPE: ☐ STATE EA / EIR **X FEDERAL EA / EIS** ☐ SCC

X CONSISTENCY DETERMINATION

PROJECT TITLE: Proposed Construction and Operation of the 911th Engineer Company Complex, Fort Belvoir

PROJECT SPONSOR: Department of the Army

PROJECT LOCATION: **X OZONE NONATTAINMENT AND EMISSION CONTROL AREA FOR NOX & VOC**

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:

All precautions are necessary to restrict the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x). For any permit needed for its operation our northern Virginia Regional Office may be consulted.

(Kotur S. Narasimhan)
Office of Air Data Analysis **DATE: January 24, 2019**

MEMORANDUM

TO: John Fisher, DEQ/EIR Environmental Program Planner

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

DATE: February 14, 2019

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

SUBJECT: Environmental Impact Review: 19-004F Construction and Operation of the 911th Engineer Company Complex at Fort Belvoir in Fairfax County, Virginia.

The Division of Land Protection & Revitalization (DLPR) has completed its review of the Bureau of Ocean Energy Management's January 22, 2019 EIR for construction and operation of the 911th Engineer Company Complex at Fort Belvoir in Fairfax County, Virginia.

Solid and hazardous waste issues were addressed in the submittal. The submittal did not indicate that a search of Federal or State environmental databases was conducted. DLPR staff conducted a search (1000 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. Additionally, no waste sites of possible concern were located within the zip code of the project area, 22060.

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.

Asbestos and/or Lead-based Paint

All structures being demolished/renovated/removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-81-620 for ACM and 9VAC 20-60-261 for LBP must be followed. Questions may be directed to Richard Doucette at the DEQ's Northern Regional Office at (703) 583-3800.

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 911th Engineer Co. Complex, DEQ #19-004F

1 message

Holland, Benjamin <benjamin.holland@deq.virginia.gov> Wed, Jan 23, 2019 at 1:53 PM
To: John Fisher <John.Fisher@deq.virginia.gov>

Northern Regional Office comments regarding the *Federal Consistency Determination for the Department of the Army's Proposed Construction and Operation of the 911th Engineer Company Complex, Fort Belvoir* (DEQ #19-004F), 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. DEQ Air Permitting management should be contacted regarding questions related to any changes to, additions of, or removal of permitted air sources.

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.

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.

V/R,
Benjamin D. Holland

On Tue, Jan 22, 2019 at 4:36 PM Fulcher, Valerie <valerie.fulcher@deq.virginia.gov> wrote:

> **Good afternoon - this is a new OEIR review request/project:**
>
> **Document Type: EA/Federal Consistency Determination**
> **Project Sponsor: Department of the Army**
> **Project Title: Proposed Construction and Operation of the 911th Engineer Company Complex, Fort Belvoir**
> **Location: Fairfax County**
> **Project Number: DEQ #19-004F**
>
> **The document is available at www.deq.virginia.gov/fileshare/oeir in the ARMY folder.**

The due date for comments is FEBRUARY 15, 2019. You can send your comments either directly to JOHN FISHER by email (John.Fisher@deq.virginia.gov), or you can send your comments by regular interagency/U.S. mail to the Department of Environmental Quality, Office of Environmental Impact Review, 1111 East Main St., Richmond, VA 23219.

NOTE: The Army has requested an expedited review. Please submit comments as soon as possible.

If you cannot meet the deadline, please notify the project coordinator prior to the comment due date. Arrangements may be made to extend the deadline for comments if possible. An agency will be considered to have no concerns if comments are not received (or contact is made) within the review period. However, it is important that agencies consistently participate in accordance with Virginia Code Section 10.1-1192.

REVIEW INSTRUCTIONS:

A. Please review the document carefully. If the proposal has been previously reviewed (e.g. as a draft EIS or a Part 1 EIR), please consider whether your earlier comments have been adequately addressed.

B. Prepare your agency's comments in a form which would be acceptable for responding directly to a project proponent agency (agency stationary or email) and include the project number on all correspondence.

If you have any questions, please email John.

Thanks!

Valerie

--

Valerie A. Fulcher, CAP, OM, Environmental Program Specialist

Department of Environmental Quality

Environmental Enhancement - Office of Environmental Impact Review

1111 East Main Street

Richmond, VA 23219

804/698-4330

804/698-4319 (Fax)

email: Valerie.Fulcher@deq.virginia.gov

http://www.deq.virginia.gov/Programs/EnvironmentalImpactReview.aspx

--

Benjamin D. Holland, MPH
DEQ Regional Enforcement Specialist

VA Department of Environmental Quality

Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

Phone: (703) 583-3812
Email: benjamin.holland@deq.virginia.gov
Website: www.deq.virginia.gov

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 Environmental Program Planner

FROM: Daniel Moore, DEQ Principal Environmental Planner

DATE: January 23, 2019

SUBJECT: DEQ #19-004F: DOA - 911th Engineer Company Complex, Ft. Belvoir

We have reviewed the Environmental Assessment (EA) submitted for the proposed 911th Engineer Company Complex Project at Fort Belvoir in Fairfax County and offer the following comments regarding consistency with the provisions of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (Regulations):

In Fairfax County, the areas protected by the Chesapeake Bay Preservation Act, 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 government. 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, which require less stringent performance criteria, include those areas of the County not included in the RPAs.

Under the Federal Consistency Regulations of the *Coastal Zone Management Act of 1972*, federal actions in Virginia must be conducted in a manner "consistent to the maximum extent practicable" with the enforceable policies of the Virginia Coastal Zone Management Program. Those enforceable policies are administered through the Chesapeake Bay Preservation Act and Regulations.

Federal actions on installations located within Tidewater Virginia are required to be consistent with the performance criteria of the Regulations on lands analogous to locally designated RPAs and RMAs, as provided in §9VAC25-830-130 and 140 of the Regulations, including the requirement to minimize land disturbance (including access and staging areas), retain existing vegetation and minimize impervious cover as well as including compliance with the

requirements of the *Virginia Erosion and Sediment Control Handbook,* and stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations*." For land disturbance over 2,500 square feet, the project must comply with the requirements of the *Virginia Erosion and Sediment Control Handbook.*

The project includes construction of a 35,290 square foot Tactical Equipment Maintenance Facility (TEMF), a 4,400 square foot equipment storage building, a 12,000 square foot vehicle storage building, a 120 square foot petroleum, oil and lubricant storage building and a 120 square foot operations facility. Construction of the new buildings would be preceded by demolition of two existing buildings on-site deemed outdated and undersized by the DOA.

The proposed project will result in land disturbance on lands analogous to both RMA and RPA lands. Figure 4 (Wetlands and Streams at the McCutchen Road Site, page 8) of the submitted EA shows Mason Run immediately east of the project site and numerous non-tidal wetlands to the west and south of the site. Most of the proposed construction activities will occur on previously developed land. 9VAC25-830-140 of the Regulations allows development on lands analogous to RPA lands if the development activities constitute redevelopment. According to the EA submitted, of the 1.6 acres of impact to lands analogous to RPA, all but 0.4 acres of impact are on previously developed land. The EA further states that the 0.4 acres of impact will result in the removal of woody vegetation and that trees over and under four inches in diameter will be replaced in accordance with the tree replacement ratios referenced in the DCR *Riparian Buffers Modification & Mitigation Guidance Manual.* 9VAC25-830-110 of the Regulations requires that a site-specific evaluation is conducted to determine whether water bodies on or near the development site and that RPA boundaries are adjusted, based on the site-specific evaluation. The site-specific evaluation is particularly important in this development scenario, as a means to ensure that no new land development occurs on lands analogous to RPA lands. Please note that 9VAC25-830-140 3 of the Regulations stipulates that: "Notwithstanding permitted uses, encroachments, and vegetation clearing….the 100-foot wide [RPA] area is not reduced in width."

Provided adherence to the above requirements, the proposed activity would be consistent with the *Chesapeake Bay Preservation Act* and the Regulations.

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director

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

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

MEMORANDUM

DATE: February 19, 2019

TO: John Fisher, DEQ

FROM: Roberta Rhur, Environmental Impact Review Coordinator

SUBJECT: DEQ 19-004F, Construction and Operation of 911th Engineer Company Complex, Fort Belvoir

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 Accotink Bay – Gunston Cove Stream Conservation Unit is located within two miles of the project site. Stream Conservation Units (SCUs) identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Accotink Bay – Gunston Cove SCU has been given a biodiversity ranking of B5, which represents a site of general significance. The natural heritage resources associated with this site are:

Lampsilis radiate	Eastern lampmussel	G5/S2S3/NL/NL
Glyptemys insculpta	Wood turtle	G3/S2/NL/LT

The Eastern lampmussel is a freshwater mussel which inhabits river systems in areas with substrates composed of silt, sand, cobble, gravel and exposed bedrock (NatureServe, 2009). This species has a wide range, from eastern Canada west to Ontario and Quebec and south to South Carolina (NatureServe, 2009). In Virginia, there are records from the Chowan and York River drainages.

Considered good indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization, and dredging, and the invasion of exotic mollusk species.

The Wood turtle ranges from southeastern Canada, south to the Great Lake states and New England. In Virginia, it is known from northern counties within the Potomac River drainage (NatureServe, 2009). The Wood turtle inhabits areas with clear streams with adjacent forested floodplains and nearby fields, wet meadows, and

farmlands (Buhlmann et al., 2008; Mitchell, 1994). Since this species overwinters on the bottoms of creeks and streams, a primary habitat requirement is the presence of water (Mitchell, 1994).

Threats to the wood turtle include habitat fragmentation, urbanization, and automobile or farm machinery mortality (Buhlmann et al., 2008). Please note that the Wood turtle is currently classified as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF).

In addition, Dogue Creek and an unnamed tributary of Dogue Creek have been designated by the VDGIF as "Threatened and Endangered Species Water" for the Wood turtle. Due to the legal status of Wood turtle, DCR recommends coordination with Virginia's regulatory authority for the management and protection of this species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act **(**VA ST §§ 29.1-563 – 570).

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 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.

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

Cc: Amy Ewing, VDGIF

February 14, 2019

John Fisher
Department of Environmental Quality
Office of Environmental Impact Review
1111 East Main Street, Suite 1400
Richmond, VA 23219

RE: DEQ #19-004F

Dear Mr. Fisher:

Thank you for notifying Fairfax County staff of an Environmental Assessment (EA), Coastal Zone Management Act Consistency Determination, and Draft Finding of No Significant Impact (FONSI) for the Proposed Construction and Operation of the 911th Engineer Company Complex, Fort Belvoir. In collaboration with the Department of Public Works and Environmental Services (both Stormwater and Urban Forest Management), the Fairfax County Department of Transportation and the Fairfax County Park Authority, the Department of Planning and Zoning has reviewed these documents for the proposed facility. Please note that these comments have not been endorsed by the Board of Supervisors.

The project, described as the consolidation of existing, dispersed Tactical Equipment Maintenance Facilities (TEMFs) into a new, medium sized TEMF, would include: an organizational equipment storage building; an organizational vehicle storage building; a petroleum, oil and lubricants (POL) storage building; and a company operations facility. Our comments are as follows:

Noise

- In the EA there is an area identified as "Rubble Training Area" which is located near residentially zoned and planned properties. Due to the proximity of the facility to residential areas we are concerned that the Rubble Training Area would contribute to adverse noise impacts for these residences.
- The EA notes that jackhammering will occur 1-2 times per week but does not provide details regarding the durations and intensities of the events. Additionally, the EA states that other noise generating events will occur (e.g., excavators, cranes, vehicle maintenance and washing) but fails to provide quantification of these impacts. The EA states that noise from the jackhammering and other activities on the site would be negligible, but without further information regarding timing, durations and intensities

of noise-generating activities, we are not certain that this would be the case. The EA also states that the vegetated areas between the noise generating events and the potential residential receptors would provide sufficient mitigation--the basis for this conclusion is unclear and is not provided. Ideally, noise generated on this property should not be audible within the adjacent planned and zoned residential area. At a minimum, Fort Belvoir should ensure that noise levels generated by on-site activities will not exceed thresholds established within the county's Noise Ordinance.

- Should noise generating events be pursued on this site, we recommend that Fort Belvoir agree to establish an ongoing communication process with neighboring residents through which residents could, at any time, apprise Fort Belvoir of adverse noise-generating activities and through which solutions to any noise impact beyond the "negligible" impact identified in the EA would be identified and implemented. This could include a potential relocation of jackhammering exercises to a less-sensitive location on Fort Belvoir.
- Could an alternative be considered through which all of the proposed actions would be pursued on the McCutchen Road site with the exception of noise-generating training activities that could potentially be audible on nearby residentially planned and zoned properties? Could those training activities be pursued on sites within the post that are not as close to noise-sensitive receptors?
- It is noted that construction activities will occur during daylight hours and only during weekdays, and the county's Noise Ordinance is referenced in the EA. Due to the proximity of the site to the Accotink Village community to the east, we appreciate Fort Belvoir's sensitivity to construction noise impacts and request consistency with the Noise Ordinance restrictions.

Tree Preservation, Replacement and Landscaping

- The EA notes that Fort Belvoir will be replacing trees and shrubs that will be removed as follows:

> *"In accordance with Fort Belvoir's Tree Removal and Protection Policy, trees that are 4 inches or greater in diameter at breast height (DBH) removed during construction would be replaced at a 2 to 1 (2:1) ratio on-post at a location to be determined during the design process, or appropriate "out-of-kind" mitigation. Additionally, trees less than 4-inches DBH and shrubs equal to or greater than 3-feet high would be replaced at a 1 to 1 (1:1) ratio."*

We have, in the past, expressed support for Fort Belvoir's previous aggressive tree replacement policy (the 2:1 replacement of trees that are four or more inches DBH) while questioning why smaller trees cannot be considered for replacement as well. Fort Belvoir has addressed that suggestion with this expanded commitment, and we thank

Fort Belvoir for its now even more aggressive approach to environmental restoration. We encourage Fort Belvoir to seek on-site solutions to the extent practicable.

- Within the supportive context of Fort Belvoir's strengthened Tree Removal and Protection Policy, we encourage Fort Belvoir to seek design approaches that will minimize clearing of existing trees on the site.
- The EA states that landscaping will be coordinated with the Fort Belvoir Natural Resources Program staff using native plant species. We thank Fort Belvoir for this commitment.

Floodplain and Resource Protection Area

- Page 35 of the EA states that there are no floodplains on the site, based on a review of a Federal Emergency Management Agency Flood Insurance Rate Map. However, a 100-year floodplain as defined by the county's Zoning Ordinance is present along Mason Run, as this stream clearly collects drainage from an area greater than 70 acres. If this stream drains 360 acres or more of land, then the floodplain would be considered to be a major floodplain; the entirety of the major floodplain would be included within the Resource Protection Area associated with the stream. If there is a major floodplain on the property, Fort Belvoir should ensure that its RPA delineation accounts for this feature.
- The EA states that 1.6 acres in the Resource Protection Area (RPA) will be impacted by the project and that currently only 0.4 acres are vegetated. Per the county's Chesapeake Bay Preservation Ordinance, redevelopment is an allowed use within RPAs, but only to the extent that there would be no increase in the amount of impervious cover and no further encroachment within the RPA. It is unclear if these criteria are being met—a current disturbed condition alone is not sufficient to meet the ordinance allowance for redevelopment.
- Fort Belvoir should clarify why the additional encroachment into the RPA is unavoidable.
- We encourage restoration of the degraded areas within the RPA to the extent possible.

Stormwater

- If the vehicle maintenance and storage activities are covered and indoor drains are directed to the sanitary sewer, there should be no impact to stormwater quality.
- The EA states that there are three wash islands, two vehicle wash racks and one tactical vehicle wash at the Goethels Road site. The EA does not clearly state where these activities would be located at the proposed location. In addition to oil/water separation, BMPs should be in place to address the presence of detergent/surfactants, pH, nutrients and visible foam and scum.
- While the outdoor islands and racks may be necessary for large vehicles and equipment, is it necessary to wash cars and light trucks outside? Would staff vehicles

be washed onsite? The document describes an increase to approximately 100 staff vehicles. (Section 3.5.2.2, p. 42) Construction of a car wash facility with water recycling requirements and connected to sanitary sewer should be considered for these vehicles. If other vehicle washing is to occur outside and is exposed to stormwater, it should be evaluated for VPDES permit coverage.

- The EA does not address material storage as related to winter snow/ice management. Outdoor sand and salt piles should be appropriately contained to minimize contact with stormwater.
- Through the EA it is stated that, *if* operation of the 911th Complex involves outside maintenance activities or outside storage potentially exposed to rain events, the site would need to be covered under VPDES Permit VA0092771 and meet the applicable permit requirements. The plans should be more clear on whether these activities will be conducted outside, so that construction can be planned accordingly. It would be better to plan for the activity during construction than to try to fix problems in operation after polluting practices have become established.
- The EA describes the inclusion of HVAC systems and chillers at the proposed site. If there are anticipated discharges of non-contact cooling water from these systems, the Army should explain how these discharges will be handled.
- The EA specifies that, during construction, routine maintenance and inspections on construction vehicles will be conducted to reduce the potential for incidental releases of vehicle and equipment fluids or chemicals; these activities should continue during operation as well.
- It appears from the introduction to the EA that some buildings on the site were constructed before a ban on manufacture of PCBs became effective (1979). The buildings should be evaluated for presence of PCBs in old building materials (if this evaluation hasn't taken place already).

Heritage Resources

- To better understand the potential and type of cultural resources that may be present in the area of potential effects (APE) for both prehistoric and historic resources, a brief history of the project area should have been included in Section 3.4.1.
- There is no description in the EA for the identification efforts used to locate historic properties for Section 106. A brief description should be included for how these historic properties were located.
- Page 29 of the EA identifies architectural resources in the vicinity and notes that Accotink United Methodist Church is a Fairfax County designated property. In addition to this, Fairfax County also lists Camp Humphrey's Pump and Filter Station and the Fort Belvoir Military Railroad and Historic Corridor on its Inventory of Historic Sites.
- Fairfax County would like to be included as a consulting party for future Section 106 consultations.

- Fairfax County concurs that the project, as proposed, will not have an impact to any NRHP-listed properties and no impact on cultural resources.

Lighting

- It is recommended that lighting on site be provided using full cut-off features that will serve to direct the lighting to targeted areas only.

Transportation

- There are no anticipated significant transportation impacts from this project other than temporary construction related activities.

Parks

- This action bears no adverse impact on the Park Authority's land or resources.

Thank you again for the opportunity to comment on this proposal. If you have any questions about the comments, please contact Corinne Bebek with the Department of Planning and Zoning at corinne.bebek@fairfaxcounty.gov or 703-324-1380.

Sincerely,

Marianne Gardner/DMJ

Marianne Gardner, Director, Planning Division
Department of Planning and Zoning

MG:CKB

cc: Board of Supervisors
Bryan Hill, County Executive
Rachel Flynn, Deputy County Executive
Fred Selden, Director, Department of Planning and Zoning (DPZ)
Denise James, Chief, Environment and Development Review Branch, DPZ
Ryan Stewart, Planner III, Fairfax County Park Authority
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Corinne Bebek, Planner I, Department of Planning and Zoning
Felix M. Marini, Chief, Environmental and Natural Resources Division, Fort Belvoir

Responses to Regulatory Agency Comments on the September 2018 Environmental Assessment

Response to Agency Comments on the September 2018 Environmental Assessment
Fort Belvoir 911th Engineer Company Complex

Name/ Agency	Comment Number	Comment Category	Comment	Initial Proposed Response	Affected Section(s)	Page(s)
Federal Agency (code 'F')						
National Capital Planning Commission	F-1-1	Site Layout Stormwater Management	The NCPC has asked for rationale regarding the size of the 911th EC Complex, and whether the bioswale/rain garden is appropriately sized and located at the site.	The size of the 911th EC Complex has been selected to allow geographically separate functions to be consolidated at a single site at Fort Belvoir. The proposed 911th EC Complex is sized to be consistent with the Unified Facilities Criteria (UFC) 4-214-02, United States Army Corps of Engineers (USACE), Department of the Army Facilities Standardization Program, Tactical Equipment Maintenance Facilities (TEMF) Standard Design Guidance, dated 23 January 2012 (UFC 4-214-02). The purpose of the impervious area included in this design is to allow for the unimpeded staging and maneuvering of multiple large emergency response vehicles. Additionally, the impervious area will also be used to training exercises using these and other emergency response vehicles. Without this impervious area, the mission of the 911th EC would be compromised and the benefits of consolidating the functions of the 911th EC at a single location would not be realized. The size and location of the bioswales/rain gardens is currently under development to ensure that the pre-development hydrology of the site is maintained during post-development conditions.	3.6.2.2	50
U.S. Environmental Protection Agency	F-2-1	Natural Resources Surface Waters	Based on the information provided, it appears that the 300-linear foot impact to the ephemeral stream in the southwest corner of the McCutchen Road site could be avoided by minimal design alteration. As the project moved forward, EPA suggests that additional avoidance and minimization measures be investigated.	The design for the proposed 911th EC design has been carefully planned for over the past 18 months to avoid environmental impacts to the maximum extent practicable. Where environmental impacts could not be avoided, mitigation actions have been incorporated into the Proposed Action to reduce the intensity of the impact. Approximately 200 linear feet of an ephemeral stream is located at the southwestern corner of the proposed TEMF site. The TEMF concrete hardstand impacts the first 75 feet of where the vegetated depression begins to form a channel. The proposed training area has been shifted to the east to avoid the remaining 125 feet of the more defined channel. The concrete hardstand is necessary for the storage and safe maneuvering of several large Army HEMTTs (Heavy Expanded Mobitlity Tactical Trucks). This site layout is prepared to accommodate the safe operation of equipment while minimizing impacts to all of the surrounding natural resources.	3.6.2.2	40
U.S. Environmental Protection Agency	F-2-2	Natural Resources Surface Waters Resource Protection Area	Although the stream and Resource Protection Area impacts associated with the Proposed Action appear to be minor, there may be cumulative impacts associated with the project. Please consider similar resource impacts in the area and their potential cumulative impact.	Cumulative impacts associated with the impacts to the stream and Resource Protection Area have been considered in the development of the Proposed Action. Mitigation for impacts to these areas is incorporated into the Proposed Action to ensure the long-term environmental quality of these sensitive resources is maintained, particularly in light of other potential future development pressures on these resources.	3.6.2.2, 3.16	40, 82
U.S. Environmental Protection Agency	F-2-3	Natural Resources Soil Groundwater	It is unclear in the EA if there us the potential for contamination on site from aqueous film-forming foam including perfluorooctanoic acid and/or perfluorooctanesulfonic acid. If this contamination is present, it is suggested that management and disposal of these materials, as well as relevant information from soil and groundwater inspections, be shared with the public in a timely manner.	Fort Belvoir is committed to managing environmental contamination, including emerging contaminants including PFOA and PFAS, and any hazards such contamination could have on human health or the environment. To date, there is no reason to suspect that PFOA/PFAS is present at the McCutcheon Road site. Should new information be obtained that indicates otherwise, Fort Belvoir would manage and dispose of PFOA/PFAS contaminated media according to applicable federal and state requirements.	3.13.1	75
U.S. Environmental Protection Agency	F-2-4	Solid Waste	The EA mentions that an off-Post site will be used for disposal of excess soils generated during construction. It should be noted that waste disposal locations should be in appropriate upland areas and not in aquatic resources.	Comment noted. Fort Belvoir does not dispose of any wastes or excess materials in or near aquatic resources. All wastes generated by Fort Belvoir are disposed of in Army-approved designated waste management facilities.	3.13.2.2	75
U.S. Environmental Protection Agency	F-2-5	Site Layout Stormwater Management	With the increase in impervious surface, EPA suggests innovative ways to promote water infiltration be considered wherever possible as part of the Proposed Action. As mentioned in the EA, vegetated swales and rain gardens are two techniques. Additional measures such as permeable pavement, bioretention areas, cisterns, and green roofs could also be considered. Technical guidance in implementing green infrastructure (GI) practices and LID can be found at: https://19january2017snapshot.epa.gov/sites/production/files/2015-09/documents/eisa-438.pdf, https://19january2017snapshot.epa.gov/sites/production/files/2015-09/documents/eisa-438.pdf, and www.epa.gov/greeninfrastructure http://www.epa.gov/greeninfrastructure.	Comment noted. USACE has incorporated low-impact development (LID) into the design of the 911th EC Complex and appreciates the information for additional LID resources.	3.6.2.2	41
U.S. Environmental Protection Agency	F-2-6	Noise	Although the EA states that other noises from the Davison Army Airfield and traffic on Richmond Highway dominate the noise environment, other construction-related noise mitigation efforts could be utilized. Specifically, EPA suggests close coordination with residents of Accotink Village related to the proposed jackhammering, and other potential construction noise to minimize objections to the unavoidable construction impacts.	Fort Belvoir has incorporated several measures to minimize noise impacts associated with construction and operation of the 911th EC on residents of Accotink Village. Specifically, Fort Belvoir will inform residents of Accotink Village of the proposed construction schedule in advance of any work. Additionally, construction activities are scheduled to occur during normal weekday work hours, when many residents would not be present. Noise-generating operational noises, such as jackhammering, are scheduled to occur on an infrequent basis (1 or 2 times per week) during weekday work hours, when many residents would not be home. Should the noise from these operational activities become a nuisance to residents of Accotink Village, Fort Belvoir will consider implementing engineering controls to dampen noise, such as installing a modular sound barrier along the border of the 911th EC Complex and Accotink Village.	3.10	56-67
State Agency (code 'S')						

Name/ Agency	Comment Number	Comment Category	Comment	Initial Proposed Response	Affected Section(s)	Page(s)
Virginia Dept of Environmental Quality (DEQ)	S-1-1	Land Use, Plans, and Coastal Zone Management	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 project as currently described is consistent to the maximum extent practicable with the enforceable policies of the Virginia CZM Program, provided all applicable permits and approvals are obtained as described below. In addition, in accordance with 15 CFR §930.39(c), DEQ recommends that the Army consider the impacts of the improvements on the advisory policies of the Virginia CZM Program found at https://www.deq.virginia.gov/Programs/EnvironmentalImpactReview/FederalConsistencyReviews.aspx #advisory. Pursuant to 15 CFR, Part 930, Subpart C, §930.46(a), the Army must submit supplemental information to DEQ for review and approval should the project affect any coastal uses or resources substantially different than described in the EA and FCD. Substantially different coastal effects include: ·substantial changes in the proposed activity that are relevant to Virginia CZM Program enforceable policies; · significant new circumstances or information relevant to the proposed activity and the proposed activity's effect on any coastal use or resources; · substantial changes that are made to the activity affecting enforceable policies and/or coastal uses or resources. Accordingly, if necessary, a project-specific FCD must be submitted to DEQ for review and concurrence in accordance with the CZMA federal consistency regulations (15 CFR, Part 930, Subpart C, §930.30 et seq.). Other state approvals which may apply to project activities are not included in this concurrence. Therefore, the Army must ensure that project activities are implemented in accordance with all applicable federal, state, and local laws and regulations.	Comment noted.	3.6.2.2, 3.7	40, 43
Virginia Dept of Environmental Quality (DEQ)	S-1-2	Natural Resources Surface Waters and Wetlands	The VWP program at the DEQ Northern Regional Office states that a VWP permit from DEQ may be required should impacts to surface waters be necessary. VMRC finds that the project has no forseeable impact on todal wetlands under its jurisdiction.	Comment noted.	3.6.2.2	40
Virginia Dept of Environmental Quality (DEQ) Virginia Marine Resources Commission	S-1-3	Natural Resources Surface Waters	VMRC staff finds that the project has no forseeable impact on the subaqueous lands under its jurisdiction.	Comment noted.	3.6	34-44
Virginia Dept of Environmental Quality (DEQ) Office of Stormwater Management	S-1-4	Stormwater Management	DEQ-NRO recommends the use of permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work.	Comment noted.	3.6	34-44
Virginia Dept of Environmental Quality (DEQ) Office of Local Government Programs	S-1-5	Natural Resources Resource Protection Areas	DEQ-OLGP concludes that, provided adherence to requirements, the proposed activity would be consistent with the Bay Act and the Regulations.	Comment noted.	3.6	34-44
Virginia Dept of Environmental Quality (DEQ) Air Division	S-1-6	Air Quality	The Army should take all reasonable precautions to limit emissions of Nox and VOCs, principally by controlling or limiting the burning of fossil fuels.	Comment noted.	3.3	23-29
Virginia Dept of Environmental Quality (DEQ) Division of Land Protection and Revitalization	S-1-7	Solid and Hazardous Wastes and Hazardous Materials	DEQ-DLPR conducted a search of the project area (1,000-foot radius) of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project site. The search did not identify any waste sites which might impact the project. In addition, a search of the project zip code (22060) did not identify waste sites of possible concern. DEQ encourages all construction projects and facilities toimplement pollution prevention principles, including the r eduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately. 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.	Comment noted.	3.13	72-76

Name/ Agency	Comment Number	Comment Category	Comment	Initial Proposed Response	Affected Section(s)	Page(s)
Virginia Dept of Environmental Quality (DEQ) Virginia Dept of Game and Inland Fisheries	S-1-8	Natural Resources Wildlife and Protected Species	According to DGIF, Accotink Creek has been designated a Threatened and Endangered Species Water due to the presence of state-listed Threatened Wood turtle and is also designated a Confirmed Anadromous Fish Use Area. DGIF documents the presence of the state-listed Endangered Tri-colored bat from the project area. It appears, based on the EA (Section 4.2, Best Management Practices and Mitigation Measures), that the Army intends to adhere to a tree removal time-of-year restriction protective of the federal-listed Threatened Northern long eared bat, which DGIF concurs will minimize impacts upon this species. It also appears the Army intends to adhere to a time-of-year restriction protective of Wood turtles in the areas identified as suitable and marginal Wood turtle upland habitat. Assuming the project moves forward in adherence to the best management practices (BMPs) and mitigation measures described in the EA, DGIF does not anticipate the project to result in significant adverse impacts upon listed species or resources under its jurisdiction. DGIF recommends that, prior to the commencement of work, all contractors be made aware of the possibility of encountering Wood turtles on site and become familiar with their appearance, status and life history. An appropriate information sheet to distribute to contractors and employees is attached. If any Wood turtles are encountered and are in jeopardy during the development or construction of this project, immediately remove them from danger and move them safely to suitable habitat in or near the closest perennial stream. Any relocations should be reported to the DGIF Region I Terrestrial Biologist, J.D. Kleopfer at (804) 829-6580 and the attached Wood turtle observation form should be completed and faxed to Mr. Kleopfer at (804) 829-6788. Further information on Wood turtles may be found at: https://www.dgif.virginia.gov/wildlife/information/wood-turtle/. DGIF recommends the Army coordinate with the Department of Conservation and Recreation (DCR) Natural Heritage Resources (DNH) since the project site is located within 2 miles of a documented occurrence of a state- or federal-listed Threatened or Endangered plant or insect species and/or other natural heritage species.	Comment noted.	3.9	50-55
Virginia Dept of Environmental Quality (DEQ) Virginia Dept of Historic Resources	S-1-9	Cultural Resources	DHR confirms that the Army previously coordinated this project with agency staff pursuant to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800. DHR concurred with the Army that the proposed undertaking will have No Adverse Effect on historic properties.	Comment noted.	3.4	29-31
Virginia Dept of Environmental Quality (DEQ) Virginia Dept of Health Office of Drinking Water	S-1-10	Utilities	VDH-ODW concludes that there are no apparent impacts to public drinking water sources due to this project	Comment noted.	3.14.2.2	78
Local Government (code 'L')						
County of Fairfax, Virginia	L-1-1	Noise	The county is concerned that the Rubble Training Area would contribute to adverse noise impacts to nearby residences.	Comment noted. See response to L-1-2 below.	3.10	56-67
County of Fairfax, Virginia	L-1-2	Noise	The EA notes that jackhammering will occur 1-2 times per week but does not provide details regarding the durations and intensities of the events. Additionally, the EA states that other noise generating events will occur but does not provide quantification of these impacts. Without durations and intensities we cannot be sure that these impacts would be negligible. The EA also states that the vegetated areas between the noise generating events and the potential residential receptors would provide sufficient mitigation but the basis for this is not provided. Noise should not be audible within residential areas. At a minimum fort belvoir should ensure that noise levels generated by on-site activities will not exceed thresholds established within the county-s Noise Ordinance and the county requests consistency with the Noise Ordinance restrictions. The county also suggests that Fort Belvoir establish an ongoing communication process with neighboring residents about noise impacts.	Comment noted. Management measures to further minimize noise impacts to nearby residences will be incorporated into the construction and operation of the Proposed Action. These measures include timing of construction noises (avoiding loud noises between 9 pm and 7 am), use of mufflers on equipment, and maintaining vegetated borders which act as natural sound barriers between the proposed 911th EC Complex and nearby residences, which are located at least 100 yards from where operation activities such as jackhammering would occur. These measures ensure that construction and operational sounds reaching nearby receptor locations are at levels that comply to the maximum extent practicable with Fairfax County's Noise Ordinance (Chapter 108.1; effective February 17, 2016).	3.10	56-67
County of Fairfax, Virginia	L-1-3	Noise	Could an alternative be considered through which all of the proposed actions would be pursued on the McCutchen Road site with the exception of noise-generating training activities? Could those training activities be pursued on sites within the post that are not as close to noise-sensitive receptors?	The Proposed Action would consolidate the 911th EC activities at a single site. Performing operational traiing activities at this single site enables the 911th EC to achieve mission efficiencies. An alternative that involves performing noise-generating activities, such as jackhammering, at a separate location would not meet the purpose and need for this Proposed Action. It is also noted that noises generated in the area have not resulted in documented complaints by residents. These noises are generated from activities at Davidson Airfield, memorial canon salutes, and traffic along Richmond Highway.	3.10	56-67
County of Fairfax, Virginia	L-1-4	Natural Resources Vegetation	The county appreciates Fort Belvoirs commitment to tree replacement and encourages Fort Belvoir to seek design approaches that minimize clearing of existing trees on the site.	Comment noted.	3.9	50-56
County of Fairfax, Virginia	L-1-5	Natural Resources Resource Protection Areas and Floodplains	Page 35 of the EA states that there are no floodplains on the site, however a 100-year floodplain defined by the county's Zoning Ordinance is present along Mason Run, as this stream clearly collects drainage from an area greater that 70 acres. If this stream drains 360 acres or more of land, the the floodplain would be considered a major floodplain and the entirety of the major floodplain would be included in the RPA associated with the stream. Fort Belvoir should ensure that its RPA delineation accounts for this feature.	Fort Belvoir follows floodplain designations issued by FEMA. To avoid floodplain impacts, the site selected for the proposed 911th EC Complex was located outside of FEMA's 100-year floodplain.	3.6.1	37
County of Fairfax, Virginia	L-1-6	Natural Resources Resource Protection Areas	Redevelopment is an allowed use within RPAs but only to the extent that there would be no increase in the amount of impervious cover and no further encroachment within the RPA. It is unclear if these criteria are being met for the 1.6 acres of RPA that will be impacted. A current disturbed condition alone is not sufficient to meet the ordinance allowance for redevelopment. Fort Belvoir should clarify why the additional encroachment into the RPA is unavoidable and restore degraded areas of the RPA to the extent possible.	The design of the proposed 911th EC Complex has been carefully developed to avoid impacts to RPA to the maximum extent feasilbe while still meeting the purpose and need for action. Where impacts are unavoidable, mitigation through vegetation replacement will be performed.	3.9	50-56
County of Fairfax, Virginia	L-1-7	Stormwater Management	If the vehicle maintenance and storage activities are covered and indoor drains are directed to the sanitary sewer, there should be no impact to stormwater quality.	Comment noted.	3.6.2.2	41

Name/ Agency	Comment Number	Comment Category	Comment	Initial Proposed Response	Affected Section(s)	Page(s)
County of Fairfax, Virginia	L-1-8	Stormwater Management	The EA states that there are three wash islands, two vehicle wash racks, and one tactical vehicle wash at the Goethels Road site. The EA does not clearly state where these activities would be located at the proposed location. The county is concerned about washing a large number of trucks and staff vehicles outside. Contruction of a car wash facility with water recycling requirements connected to sanitary sewer should be considered for the 100 staff vehicles. If vehicle washing is to occur outside and is exposed to stormwaterm it should be evaluated for VPDES permit coverage.	Once the facility design has been finalized, the subsequent operational activities will be appropriately covered either under an Industrial Stormwater Major Permit or an MS4 permit. If the wash racks will be outside then they will be designed such that the wash water drains only into floor drains that are connected to Oil Water Separators (OWS) and then drain into the sanitary sewer. No wash water will be discharged to the stream. The design and functionality must meet this standard. Wash Islands would follow the same design as the wash racks. Furthermore, the facility would be covered under the Industrial Stormwater Major Permit VA0092771, a new Industrial Stormwater Representative Outfall and associated drainage area would be permitted, the facility would receive a facility specific SWPPP that the 911th EC would implement and maintain. Alternatively, if the final design calls for all washing activities to be conducted under cover with drainage through OWS to sanitary sewer, the activities not being exposed to/come into contact with stormwater, then the activity would be covered under Fort Belvoir's MS4 permit. Parking for maintained vehicles does not require Industrial Stormwater permit coverage. It is also noted that the vehicle wash station would be used for only 911th EC tactical emergency vehicles. Thus, the "100 staff vehicles" would not be permitted to use the wash station.	3.6.2.2	41
County of Fairfax, Virginia	L-1-9	Stormwater Management	The EA does not address material storage as related to winter snow/ice management. Outdoor sand and salt piles should be appropriately contained to minimize contact with stormwater.	Winter snow/ice management materials (salt, sand) will be managed according to Fort Belvoir's Master Stormwater Pollution Prevention Plan's BMP Fact Sheets for Salt Storage (policy memo 73). It is also noted that the application of Urea-containing products and Ethylene Glycol-containing products are prohibited on Fort Belvoir. Reporting of salt application quantities and dates would be required regardless under which permit the 911th EC Complex would be covered (e.g. Industrial Stormwater Major Permit of the Fort Belvoir MS4 permit).	3.6.2.2	41
County of Fairfax, Virginia	L-1-10	Stormwater Management	Through the EA it is stated that, if operation of the 911 th Complex involves outside maintenance activities or outside storage potentially exposed to rain events, the site would need to be covered under VPDES Permit VA0092771 and meet the applicable permit requirements. The plans should be more clear on whether these activities will be conducted outside, so that construction can be planned accordingly.	As noted above, all industrial wastewater will drain to an Oil/Water Separator and sanitary sewer. Once the final facility design has been determined, the subsequent operational activities will be appropriately covered under either an Industrial Stormwater Major Permit or Fort Belvoir's MS4 permit.	3.6.2.2	41
County of Fairfax, Virginia	L-1-11	Stormwater Management	The EA describes the inclusion of HVAC systems and chillers at the proposal site. If there are anticipated discharges of non-contact cooling water from these systems, the Army should explain how these discharges will be handled.	The non-contact cooling water will drain only to the sanitary sewer and therefore will not enter waters of the state.	3.6.2.2	41
County of Fairfax, Virginia	L-1-12	Hazardous Materials and Hazardous Waste	Any buildings constructed before the 1979 ban on PCBs should be evaluated for the presence of PCBs in old building materials.	Prior to demolition of the two structures, surveys will be performed for regulated building materials (asbestos, lead, PCBs, etc.). The survey results will be used to determine the appropriate federal and state requirements for pre-demolition material handling, demolition waste material transportation, and final off-site disposal.	3.13.2.2	75
County of Fairfax, Virginia	L-1-13	Cultural Resources	A brief history of the project area should be included in Section 3.4.1 and a brief description of how historic properties were located for Section 106 consultation should be included.	As requested, additional background information has been included in Section 3.4.1.	3.4.1	29
County of Fairfax, Virginia	L-1-14	Cultural Resources	Page 29 of the EA identifies architectural resources in the vicinity and notes that Accotink United Methodist Church is a Fairfax County designated property. Fairfax county also lists Camp Humphrey's Pump and Filter Station and the Fort Belvoir Military Railroad and Historic Corridor on its inventory of histric sites. Why were these not included? In the future, Fairfax County would like to be included as a consulting party for Section 106 consultations.	An Area of Potential Effect (APE) was identified and submitted to DHR State Historic Preservation Officer (SHPO). The section of Railroad Corridor is shown on the APE submitted to the SHPO. As documented in the Draft EA, the SHPO concurred with the finding of no historic properties affected. Fort Belvoir appreciates and has taken under advisement Fairfax County's request to be included in future Section 106 consultations. That being said, the lack of inclusion did not result in any adverse effect or potential harm to any known or potential historic properties.	3.4	29-32
County of Fairfax, Virginia	L-1-15	Cultural Resources	Fairfax County concurs that the project, as proposed, will not have an impact to any NRHP-listed properties or any cultural resources.	Comment noted.	3.4	29-32
County of Fairfax, Virginia	L-1-16	Utilities	It is recommended that lighting on site be provided using full cut-off features that will direct light to targeted areas only.	Comment noted. Proposed night-time lighting would be directed inward toward targeted areas, thereby avoiding a potential nuisance condition to nearby residential receptors and passersby.	3.2.2.2	22
County of Fairfax, Virginia	L-1-17	Transportation	There are no anticipated significant transportation impacts from this project other than temporary construction related activities.	Comment noted.	3.5	32-34
County of Fairfax, Virginia	L-1-18	Community Services	This action bears no adverse impact on the Park Authoritys land or resources.	Comment noted.	3.12	70-72

Appendix B

Air Quality Conformity Analysis and Record of Non-Applicability

Record of Non-Applicability

In Accordance with the Clean Air Act – General Conformity Rule for the Proposed Construction and Operation of the 911th Engineer Company Complex, Fort Belvoir, Virginia

Fort Belvoir proposes to construct and operate the 911th Engineer Company Complex (911th EC Complex) on the North Post of Fort Belvoir, Virginia. The 911th Engineer Company currently operates from three geographically separated locations (McCutchen Road site, Marine Corps Detachment at 9100 Gunston Road, and 6151 Goethals Road). The Proposed Action would consolidate these currently geographically separate facilities at the approximately 10-acre McCutchen Road site. Consolidating the 911th EC Complex at the McCutchen Road site would allow the 911th Engineer Company to provide more rapid emergency response services to the National Capital Region. Prior to new construction, the two existing buildings (Buildings 2476 and 2477) at the McCutchen Road site would be demolished. The 911th EC Complex facilities then to be constructed would include a Tactical Equipment and Maintenance Facility, an Organizational Equipment Storage building, Organizational Vehicle Storage building, a Petroleum/Oil/Lubricants Storage building, a Hazardous Waste Storage building, a Company Operations Facility, and an outdoor Organizational Vehicle Parking area.

The proposed layout and alignment of the new buildings, and the proposed size of each building, is described in further detail in Section 2.1 of the accompanying Environmental Assessment (EA) for the Proposed Construction and Operation of the 911th Engineer Company Complex at Fort Belvoir.

General Conformity under the Clean Air Act, Section 176 has been evaluated according to the requirements of Title 40 of the Code of Federal Regulations Part 93, Subpart B. The requirements of this rule are not applicable to the action because:

> The highest total annual direct and indirect emissions from the Proposed Action have been estimated at 2.1119 tons of carbon monoxide (CO), 1.8988 tons of nitrogen oxides (NOx), 0.1919 tons of particulate matter (PM), 0.0055 tons of sulfur dioxide (SO_2), and 0.6243 tons of volatile organic compounds (VOCs), per year, which would be below the applicable threshold values of 50 tons for VOCs and 100 tons each for NOx, PM, CO, and SO_2.

Supported documentation and emission estimates:

[X] Are Attached

[ ] Appear in the National Environmental Policy Act Documentation

[ ] Other (not necessary)

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Table of Contents for the Supporting Documentation and Emissions Estimates

List of Tables

B.1 Emissions Estimations and Methodology

The U.S. Army has considered all foreseeable direct and indirect sources of air emissions associated with the Proposed Action. *Direct emissions* are emissions that are caused or initiated by a federal action and occur at the same time and place as the action. *Indirect emissions* are reasonably foreseeable emissions that are caused by the action but might occur later in time and/or be farther removed in distance from the action itself, and that the federal agency can practicably control. More specifically, project-related direct emissions would result from the following:

- **Construction Emissions.** The use of non-road equipment (e.g., bulldozers, backhoes), worker vehicles, the use of volatile organic compound (VOC) paints, paving off-gases, and fugitive particles from surface disturbances.
- **Operational Emissions.** The emissions from commuting personnel and equipment are exempt from permitting under 9VAC5-80-1105 (i.e., gaseous fuel burning units w/ max heat input less than 50,000,000 Btu/hr and diesel generators with electrical output of 1,125 kW). Notably, the portion of an action that includes major or minor new or modified stationary sources that require a permit under the new source review program (Section 110(a)(2)(c) and Section 173 of the Clean Air Act) or the prevention of significant deterioration program (Title I, Part C of the Clean Air Act) are exempt from the General Conformity Rule (GCR).

B.2 Total Project Construction Emissions

The total project construction emissions associated with the use of heavy construction equipment (e.g., bulldozers, backhoes), worker vehicles, architectural coatings, paving off-gases, and fugitive dust from surface disturbances are presented in Table 1. The following sections outline all the calculations and assumptions made to derive the total project emission estimations in Table 1. As shown in Table 1, the total project emissions are below the GCR *de minimis* emissions levels.

Table 14. Total Emissions from Construction of the Proposed Action

Phases	Construction Emissions (tons per year [tpy])					
	CO	**NOx**	**PM**	**SO_2**	**VOC**	**CO_2**
Heavy Construction Equipment Emissions	1.7626	1.8692	0.0879	0.0044	0.2808	406.5358
Worker Vehicle Emissions	0.3493	0.0296	0.0023	0.0011	0.0062	0.1058
Architectural Coating Emissions	N/A	N/A	N/A	N/A	0.3340	N/A
Paving Off-Gas Emissions	N/A	N/A	N/A	N/A	0.0033	N/A
Fugitive Dust Emissions	N/A	N/A	0.1017	N/A	N/A	N/A
Total Emissions	2.1119	1.8988	0.1919	0.0055	0.6243	406.6416
GCR *de minimis* Emission Levels	100	100	100	100	50	---

B.3 Heavy Construction Equipment

Emissions from heavy construction equipment associated with the construction of the proposed 911th EC Complex were estimated for activities involving demolition of existing buildings, site clearing and grading, building construction, and asphalt paving.

Information regarding the number of pieces and types of construction equipment to be used on the project, the schedule of equipment use (days of use), and the approximate daily operating time (hours) was calculated using the estimations provided for the Proposed Action, which was identified by Short-Term Project 49 ("ST49") in the Fort Belvoir Final Environmental Impact Statement (FEIS): Short-term Projects and Real Property Master Plan (RPMP) Updated, Volume 2 from June 2015 (US Army, 2015) and through field experience from similar projects. This information is provided in Table 2.

Table 15. Schedule of Construction Equipment Use

Heavy Construction Equipment	Quantity	Days of Use	Hours Used/Day
Site Preparation			
Rubber Tire Dozer	3	11	8
Tractors/loaders/backhoes	4	11	7
Grading			
Excavators	1	11	8
Graders	1	11	8
Rubber Tire Dozers	1	11	8
Tractors/loaders/backhoes	3	11	8
Building Construction			
Cranes	1	162	7
Forklifts	3	162	8
Generator Sets	1	162	8
Tractors/loaders/backhoes	3	162	8
Welders	1	162	2
Paving			
Pavers	2	1	8
Paving Equipment	2	1	8
Rollers	2	1	8
Architectural Coating			
Air Compressor	1	11	6

Emissions factors for the heavy construction equipment listed in Table 2 were obtained from South Coast Air Quality Management District (SCAQMD) Off Road – Model Mobile Source Emissions Factors for the year 2019 (SCAQMD, 2018). These emission factors are provided in Table 3.

Table 16. Emission Factors for Heavy Construction Equipment

Heavy Construction Equipment by Phase	Emission Factors (for year 2019)					
	CO	NOx	PM	SO_2	VOC	CO_2
	(lbs/hr)					
Site Preparation						
Rubber Tire Dozer	0.8388	1.6948	0.0682	0.0025	0.2227	239.00
Tractors/loaders/backhoes	0.3630	0.3019	0.0160	0.0008	0.0472	66.80
Grading						
Excavators	0.5140	0.4575	0.0214	0.0013	0.0787	120.00
Graders	0.5787	0.6490	0.0316	0.0015	0.0982	133.00
Rubber Tire Dozers	0.8388	1.6948	0.0682	0.0025	0.2227	239.00
Tractors/loaders/backhoes	0.3630	0.3019	0.0160	0.0008	0.0472	66.80
Building Construction						
Cranes	0.3982	0.7236	0.0286	0.0014	0.0954	129.00
Forklifts	0.2166	0.1924	0.0085	0.0006	0.0345	54.40
Generator Sets	0.2755	0.3483	0.0169	0.0007	0.0431	61.00
Tractors/loaders/backhoes	0.3630	0.3019	0.0160	0.0008	0.0472	66.80
Welders	0.1843	0.1832	0.0117	0.0003	0.0344	25.60
Paving						
Pavers	0.4966	0.5833	0.0386	0.0009	0.1053	77.90
Paving Equipment	0.4109	0.5172	0.0344	0.0008	0.0806	68.90
Rollers	0.3859	0.4127	0.0261	0.0008	0.0632	67.00
Architectural Coating						
Air compressor	0.3100	0.3577	0.0213	0.0007	0.0526	63.60

(SCAQMD, 2018)

To determine the heavy construction equipment emissions in tons per year, the following formula was used, with information provided from Table 2 and Table 3:

$$\mathbf{TPY_p = (T_h \times E_{fp} \times N \times D)/C}$$

Where: TPY_p = Tons Per Year of Pollutant

T_h = Time (hours per day of operation)

E_{fp} = Emissions Factor for the given pollutant (information from Table 3)

N = Number of pieces of equipment

D = Days of use of equipment

C = Conversion from lbs to tons

A sample calculation for construction equipment for CO from the use of a grader is depicted as follows:

$$TPY_{CO} = (T_h \times E_{CO} \times N \times D)/C$$

$$TPY_{CO} = (8 \times 0.5787 \times 1 \times 11)/2000$$

$$TPY_{CO} = (50.9256)/2000$$

$$TPY_{CO} = 0.025$$

The annual heavy construction equipment emissions are presented in Table 4 for each pollutant during each phase of construction.

Table 17. Annual Construction Equipment Emissions

Construction Equipment by phase	Annual Emissions (tpy)					
	CO	NOx	PM	SO_2	VOC	CO_2
Site Preparation						
Rubber Tire Dozer	0.074	0.149	0.006	0.00022	0.020	21.032
Tractors/loaders/backhoes	0.042	0.035	0.002	0.00009	0.005	7.715
Total	0.116	0.184	0.008	0.00031	0.025	28.747
Grading						
Excavators	0.023	0.020	0.001	0.000058	0.003	5.280
Graders	0.025	0.029	0.001	0.000066	0.004	5.852
Rubber Tire Dozers	0.074	0.036	0.002	0.000068	0.006	21.032
Tractors/loaders/backhoes	0.042	0.035	0.002	0.00009	0.005	7.715
Total	0.164	0.120	0.006	0.000281	0.019	39.879
Building Construction						
Cranes	0.226	0.410	0.016	0.00078	0.054	73.143
Forklifts	0.421	0.374	0.017	0.00117	0.067	105.754
Generator Sets	0.179	0.226	0.011	0.00045	0.028	39.528
Tractors/loaders/backhoes	0.617	0.514	0.027	0.00132	0.080	113.627
Welders	0.030	0.030	0.002	0.00005	0.006	4.147
Total	1.473	1.553	0.073	0.00378	0.235	336.199
Paving						
Pavers	0.004	0.005	0.000309	0.000007	0.001	0.623
Paving Equipment	0.003	0.004	0.000275	0.000006	0.001	0.551
Rollers	0.003	0.003	0.000209	0.000006	0.001	0.536
Total	0.010	0.012	0.000793	0.00002	0.002	1.710
Architectural Coating						
Air compressor	0.010	0.012	0.001	0.000023	0.002	2.099
Total	0.010	0.012	0.001	0.000023	0.002	2.099
Total Annual Emissions from Heavy Construction Equipment (tpy)	**1.7626**	**1.8692**	**0.0879**	**0.0044**	**0.2808**	**406.5358**

B.4 Construction Worker Vehicle Emissions

Emissions from construction workers' vehicles were included in this analysis. Emission factors for motor vehicles were conservatively calculated using the USEPA MOVES2014a mobile emissions model (USEPA, 2018). The analysis assumed that the workers would drive their vehicles 30 miles per day at an average speed of 35 miles per hour. Table 5 details the emission factors used in this analysis.

Table 18. Construction Worker Vehicle Emission Factors

	Emissions Factors					
	CO	NOx	PM	SO_2	VOC	CO_2
Worker Vehicle Emissions						
lbs/mile	0.0033	0.0003	0.000022	1E-05	0.000059	0.001

(USEPA, 2018)

Table 6 summarizes the annual construction worker vehicle emissions. These emissions were determined using the following equation:

$$\mathbf{TPY_P = (ME \times EF_P \times W)/C}$$

Where: TPY_P = Tons Per Year of Pollutant

ME = Miles per Employee: number of trips x miles/trip x commuting factor x days

Number of trips = 2; Miles/trip = 30; Commuting factor = 0.6; Total Days = 196

W = Number of Workers

Short-term Workers = 30

EF_P = Emission Factor for the given pollutant (lbs/mile)

C = Conversion from lbs to tons

A sample calculation for CO emissions from construction workers' vehicles is provided below:

$$TPY_{CO} = (ME \times EF_{CO} \times W)/C$$
$$TPY_{CO} = (7056 \times 0.0033 \times 30)/2000$$
$$TPY_{CO} = 698.544/2000$$
$$TPY_{CO} = 0.3493$$

Table 19. Estimated Annual Vehicle Emissions from Construction Workers' Vehicles

	Emissions Factors					
	CO	NOx	PM	SO_2	VOC	CO_2
Worker Vehicle Emissions						
Tons/year	0.3493	0.0296	0.0023	0.0011	0.0062	0.1058

B.5 Emissions from Architectural Coatings

Emission factors relating to total square footage to be built were used to estimate VOC emissions from architectural coating activities – primarily painting activities. For office space, the area to be painted was assumed to be approximately twice the heated area of the proposed 911th EC Complex, and the dry film thickness was assumed to be three millimeters (mm) (SCAQMD, 2018 and 9-VAC-5 Chapter 45 - Part II Article 5). The following formula was used to calculate emissions from the architectural coatings of the 911th EC Complex:

$$\mathbf{E = ([F/H] \times G)/2{,}000}$$

Where: E = Emissions of VOCs from architectural coatings

F = Pounds of VOC emissions per gallon

F = 2.09 lb/gallon

G = Total area to be coated (floor area x 2)

G = 63,929 ft^2 x 2 = 127,858 ft^2

H = Paint coverage

H = 400 ft^2/gallon

C = Conversion from lbs to tons

The annual VOC emissions (tpy) from architectural coating are:

E = ([F/H] x G)/2000

E = ([2.09/400] x 127858)/2000

E = 668.05805/2000

E = 0.3340 tons/year

Emissions for the other criteria pollutants are considered to be negligible for this phase of construction, and therefore are reported as non-applicable (N/A) in the associated table.

B.6 Asphalt Curing Emissions

Asphalt paving would generate emissions from (1) asphalt curing, (2) operation of on-site paving equipment, and (3) operation of motor vehicles, including paving material delivery trucks. However, because the emissions resulting from the operation of onsite paving equipment, trucks, and vehicles were included in the previous section, only asphalt curing-related emissions are discussed in this section. Asphalt curing-related VOC emissions were calculated based on the amount of paving for the on-site parking lot. The following assumption was used in VOC emission calculations for asphalt curing (SCAQMD, 2018):

E = (paved area x 2.62 lb VOC/acre)/2,000 lbs/ton

The calculation for VOC emissions from asphalt paving is provided below:

Paved area = 2.48 acres

E = (2.48 acres x 2.62 lb VOC/acre)/2000 lb/ton

E = 0.0033 tons

Emissions for the other criteria pollutants are considered to be negligible for this phase of construction, and therefore are reported as non-applicable (N/A) in the associated table.

B.7 Surface Disturbance

The quantity of dust emissions from construction operations is proportional to the area of land being worked and the type of construction activity. The following assumptions were used in the calculations for fugitive dust emissions (USEPA, 1995 and USEPA, 2018).

$$\mathbf{E_{10} = (acres \times EF \times CF \times PM_{10}) / C}$$

$$\mathbf{E_{2.5} = E_{10} \times PM_{2.5}}$$

$$\mathbf{E_{total} = E_{10} + E_{2.5}}$$

Where: E_{total} = Tons per year of total Particulate Matter

E_{10} = Tons per year of PM_{10}

$E_{2.5}$ = Tons per year of $PM_{2.5}$

Acres to be disturbed = 9.82 acres

EF = 80 lb TSP/acre

TSP = Total Suspended Particulates

CF = Capture Fraction

CF = 0.5

PM = Particulate matter; specific for PM_{10} and $PM_{2.5}$

PM_{10} = 0.45 lb/TSP

$PM_{2.5}$ = 0.15 lb/PM_{10} lb

C = Conversion from lbs to tons

Thus, the PM emissions from surface disturbance for the Proposed Action are:

$$E_{10} = (\text{acres} \times EF \times CF \times PM_{10})/C$$
$$E_{10} = (9.82 \times 80 \times 0.5 \times 0.45)/2000$$
$$E_{10} = 176.76/2000$$
$$E_{10} = 0.0884$$

$$E_{2.5} = E_{10} \times PM_{2.5}$$
$$E_{2.5} = 0.0884 \times 0.15$$
$$E_{2.5} = 0.0134$$

$$E_{total} = E_{10} + E_{2.5}$$
$$E_{total} = 0.0884 + 0.0134$$
$$\underline{E_{total} = 0.1017 \text{ tons}}$$

Emissions for the other criteria pollutants are considered to be negligible for this phase of construction, and therefore are reported as non-applicable (N/A) in the associated table.

B.8 Operational Emissions

Operation of the 911th EC Complex would generate emissions from the use of heavy equipment (one 22-ton crane, two excavators, response vehicles) during training, when intermittently running a backup emergency generator, and when running building heating and cooling (HVAC) systems. However, no substantive new non-mobile or mobile emission sources would be created compared to current conditions. Additionally, emissions from operation of the proposed 911th EC Complex would likely be similar to or lower than emissions generated at the three facilities currently utilized by the 911th Engineer Company, primarily because the proposed new HVAC equipment would be more energy efficient than the older existing systems. In sum, emissions from operational activities are anticipated to be lower than the construction-related emissions, and therefore operation of the Proposed Action also would not lead to an exceedance of the GCR *de minimis* thresholds.

B.9 References

SCAQMD, 2018 Off-Road - Model Mobile Source Emission Factors. Year 2019. <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors>

US Army, 2015 Final Environmental Impact Statement (FEIS) for Short-Term Projects and Real Property Master Plan (RPMP) Update. Volume II – Appendices. Fort Belvoir, Virginia. June 2015.

USEPA, 1995 Compilation of Air Pollutant Emission Factors, AP-42, 5th edition, Vol. I: Stationary Point and Area Sources. January 1995.

USEPA, 2018 Motor Vehicle Emissions Simulator (MOVES2014a). Accessed April 2018 <https://www.epa.gov/moves/moves2014a-latest-version-motor-vehicle-emission-simulator-moves>

Appendix C

Coastal Zone Federal Consistency Determination and Determination of Consistency with Virginia's Coastal Resources Management Plan

Coastal Zone Federal Consistency Determination and Determination of Consistency with Virginia's Coastal Resources Management Plan

Pursuant to Section 307 of the *Coastal Zone Management Act* of 1972, as amended, this is a Federal Consistency Determination for the construction and operation of the 911th Engineer Company Complex (911th EC Complex). The Army is required to determine the consistency of its activities affecting Virginia's coastal resources or coastal uses with the Virginia Coastal Resources Management Program (CRMP).

This document represents an analysis of the Proposed Action in the context of established Virginia CRMP Enforceable Policies and Programs. Furthermore, submission of this consistency determination reflects commitment of the Army to comply with those Enforceable Policies and Programs. The Proposed Action would be constructed and operated in a manner that is consistent with the Virginia CRMP. The Army has determined that the construction and operation of the 911th EC Complex would have negligible impact on any land and water uses or natural resources of the Commonwealth of Virginia's coastal zone.

1. Description of Proposed Action

The Proposed Action would consolidate the 911th Engineer Company facilities at the McCutchen Road site. Prior to new construction, the existing buildings (Buildings 2476 and 2477) at the McCutchen Road site would be demolished. Prior to demolition, any regulated materials (e.g., asbestos, lead) present in those buildings would be managed and disposed of in compliance with all applicable state and federal regulations.

According to the *Military Construction, Army Program Development Department of Defense Form 1391*, dated February 8, 2017, the new buildings would be constructed to be consistent with the requirements in the Fort Belvoir *Installation Design Guide*; UFC 4-010-01, *Department of Defense Minimum Antiterrorism Standards for Buildings;* and UFC 4-010-02, *Department of Defense Minimum Antiterrorism Standoff Distance for Buildings.* The buildings would be designed to a minimum life of 40 years in accordance with DOD UFC 1-200-02 for energy efficiency, building envelope, and integrated building systems performance. Antiterrorism/force protection measures would be implemented, including laminated glass windows in reinforced frames, reinforced exterior doors, security lighting, fencing, barriers, and visual screening. The proposed layout and alignment of the new buildings, and the proposed size of each building, are described in further detail in Section 2.1 of the Environmental Assessment (EA) for the construction of the 911th EC Complex. Construction of the Proposed Action is anticipated to take approximately 2.75 years to complete (from approximately January 2019 through October 2021).

2. Assessment of Probable Effects

In compliance with the *National Environmental Policy Act* of 1969, Fort Belvoir has prepared an EA to evaluate the environmental impacts potentially resulting from construction and operation of the 911th EC Complex. Through this evaluation, Fort Belvoir has determined that the Proposed

Action is consistent, to the maximum extent practicable, with the Commonwealth of Virginia CRMP's enforceable policies, for the following reasons:

Fisheries Management. The Proposed Action alternative has no foreseeable impacts on fish or shellfish resources and would not affect the promotion of, or access to, commercial or recreational fisheries. Compliance with the installation's Municipal Separate Storm Sewer System (MS4) Permit and the Virginia Erosion and Sediment Control regulations would minimize the risk of sediment being transported off the site to the Potomac River Fishery. Best management practices recommended by the Virginia Departments of Conservation and Recreation and Forestry would be employed, such as the use of marsh mats or timber mats when using heavy equipment in wetland areas. Effects on stormwater, groundwater, and surface water are addressed in Section 3.6 of the EA.

Subaqueous Lands Management. 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, wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Virginia Department of Environmental Quality (VDEQ) Water Division. The program is administered by the Virginia Marine Resources Commission (Virginia Code §28.2-1200 through §28.2-1213). The Proposed Action would not involve any encroachment in, on, or over state-owned subaqueous lands.

Wetlands Management. As described in Section 3.6.2.2 of the EA, construction and operation of the proposed 911th EC Complex would not directly affect wetlands. None of the wetlands delineated in the vicinity of the Proposed Action are within the footprint of the proposed 911th EC Complex (see Figure 7 in the EA). Indirect impacts on nearby wetlands would be avoided or minimized through erosion and sediment control measures, and the construction contractor would be prohibited to encroach upon the wetland areas for any reasons. If and as needed, flags or barriers would be put in place to clearly mark out the areas to be avoided and to ensure no activities (e.g., equipment staging or parking, stockpiling of materials) take place within wetlands. Following these practices would ensure no impacts would occur to wetlands surrounding the proposed 911th EC Complex.

Dune Management. Dune protection is carried out pursuant to the *Coastal Primary Sand Dune Protection Act* and is intended to prevent destruction or alteration of primary dunes. This program is administered by Virginia Marine Resources Commission (Virginia Code §28.2-1400 through §28.2-1420). No permanent alteration of or construction upon any coastal primary sand dune would take place under the proposed action. There is no potential to affect coastal primary sand dunes.

Non-Point Source Pollution Control. Development of the 911th EC Complex will include over 10 acres of land disturbance due to facility construction and demolition activities. As the Proposed Action is greater than one acre, an Erosion Sediment Control (ESC) plan and a stormwater management plan would be developed. Fort Belvoir has developed an integrated Storm Water Pollution Prevention Plan (SWPPP) to guide this activity; and project-specific ESC plans will be developed to avoid and minimize potential impacts per Virginia ESC law. The ESC plan would

include temporary erosion and sediment control measures. The ESC plan and stormwater management plan would be prepared utilizing the requirements for water quality and quantity found in 9 VAC 25-870. Appropriate temporary erosion and sediment control measures or permanent stormwater Best Management Practices (BMP) would be employed to minimize impacts to water quality from disturbance construction of the 911th EC Complex and potential increase in stormwater runoff. Sampling of the outfalls would occur to ensure water quality is maintained during and after construction. Following these established ESC requirements will ensure conformance with the *Coastal Zone Management Act* to the maximum extent practicable.

Point Source Pollution Control. The Proposed Action would result in a new source (construction stormwater) of point source pollution, but adverse impacts would be minimal, controlled through a SWPPP, and subject to obtaining a Virginia Stormwater Management Program (VSMP) Permit. Fort Belvoir reviews all construction site plans affecting one acre or more for compliance with the state's Stormwater Management Act. Compliance with Section 438 of the 2007 *Energy Independence and Security Act* (EISA) requires federal development projects with a footprint exceeding 5,000 square feet to include site planning, design, construction, and maintenance strategies to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. These actions would minimize runoff and, in some cases, reverse adverse effects from present conditions, by compliance with EISA Section 438 and VDEQ's requirement for adequate outfall, which would also act to control point source pollution. Effects pertaining to stormwater are discussed in Section 3.6 of the EA. Use of on-site stormwater retention measures and incorporation of Low Impact Development Best Management Practices to comply with EISA Section 438 would reduce the amount and rate of stormwater discharging from the site after a rainfall for both short-term and long-term projects.

Shoreline Sanitation. The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. Fort Belvoir relies on its sanitary sewer system and does not employ septic systems. The Proposed Action alternative would therefore have no impact on shoreline sanitation.

Air Pollution Control. The estimated emissions from implementation of the proposed action would not exceed the applicable *de minimis* threshold values. No individual air pollution control permits would be required, and a conformity determination is not required for the development of the proposed 911th EC Complex.

Coastal Lands Management. Coastal Lands Management is a state-local cooperative program administered by VDEQ's Water Division and 84 localities in Tidewater, Virginia, established pursuant to the Chesapeake Bay Preservation Act (Virginia Code §§ 62.1- 44.15:67 through 62.1-44.15:79) and Chesapeake Bay Preservation Area Designation and Management Regulations (Virginia Administrative Code 9 VAC 25-830-10 et seq.). Construction of the proposed 911th EC Complex would involve development within a resource protection area (RPA) (see Figure 7 in the EA). However, much of the affected RPA area is already developed and only a small portion of it is vegetated. Mitigation measures proportionate to the anticipated impacts would be implemented.

These measures would consist of the planting of replacement vegetation in other portions of the RPA, consistent with the Virginia Department of Conservation and Recreation's *Riparian Buffers Modification and Mitigation Guidance Manual* and applicable Fort Belvoir Draft Guidance. The anticipated adverse impacts would be small enough to be adequately mitigated and less than significant.

3. Summary of Findings

The preceding analysis is provided in more detail in the EA referenced above. Fort Belvoir would ensure that the 911th EC Complex project design includes appropriate BMPs, the construction contractor uses and maintains appropriate BMPs, project designers obtain the requisite permits and approvals, and Fort Belvoir implements the mitigation measures proposed in the EA. With the proposed mitigation measures, Fort Belvoir finds that the proposed construction and operation of the 911th EC Complex would be consistent to the maximum extent practicable with the federally-approved enforceable policies of the Virginia CRMP, pursuant to the *Coastal Zone Management Act* of 1982, as amended, and in accordance with 15 CFR 930.30.

By certification that the Proposed Action is consistent with the Virginia CRMP Enforceable Policies, the Commonwealth of Virginia is hereby notified that it has 60 days from receipt of this document to concur with, or object to, this Federal Consistency Determination. However, pursuant to 15 CFR 930.62(b), if the Commonwealth of Virginia has not issued a decision within 60 days from receipt of this determination, it shall notify Fort Belvoir of the status of this matter and the basis for further delay. Point of contact is Mr. Felix Mariani, Chief, Environmental and Natural Resources Division, Directorate of Public Works by telephone at 703-806-3193, or by email at imcom.fortbelvoir.dpw.environmental@us.army.mil.

Michael H. Greenberg
Colonel, U.S. Army
Commanding

Appendix D

U.S. Army Public Health Center
Noise Assessment for the 911th Technical Rescue Engineer Company
Fort Belvoir, Virginia, 10 April 2019

DEPARTMENT OF THE ARMY
US ARMY PUBLIC HEALTH CENTER
BUILDING 5158
8252 BLACKHAWK ROAD
ABERDEEN PROVING GROUND MARYLAND 21010-5403

MCHB-PH-WMG 3 June 2019

MEMORANDUM FOR Fort Belvoir, Department of Public Works, Environmental Division (IMBV-PW/Mr. Christopher Yesmant), 9430 Jackson Loop, Building 1442, Fort Belvoir, VA 22060

SUBJECT: Environmental Health Sciences, Environmental Noise Consultation No. S.0065854-19, Noise Assessment for the 911th Technical Rescue Engineer Company, Fort Belvoir, Virginia, 10 April 2019

1. Subject document is enclosed.

2. The U.S. Army Public Health Center (APHC) strives to provide high quality products and services in a timely manner. We would appreciate a few moments of your time to tell us how we did. Please visit the following link: https://usaphcapps.amedd.army.mil/Survey/se.ashx?s=25113745052C38DC. To help ensure we evaluate the proper project:

a. For Question 1 “Directorate/Division” please indicate:

(1) Directorate: Environmental Health Sciences and Engineering

(2) Division: Environmental Health Sciences

b. For Question 2 “Type of product or service received,” please indicate: Technical or Surveillance Report

3. Our points of contact for this consultation are Mr. William Whiteford, Acoustical Engineer, or Ms. Catherine Stewart, Branch Chief, Environmental Noise, APHC, commercial 410-436-3829 or DSN 584-3829, or e-mail: william.d.whiteford4.civ@mail.mil or catherine.m.stewart20.civ@mail.mil.

FOR THE DIRECTOR:

Encl

ALICK E. SMITH
LTC, MS
Director, Environmental Health Sciences and Engineering

APHC

U.S. ARMY PUBLIC HEALTH CENTER

8252 Blackhawk Road, Aberdeen Proving Ground, Maryland 21010-5403

Environmental Health Sciences, Environmental Noise Consultation No. S.0065854-19, June 2019
Environmental Health Sciences and Engineering

Noise Assessment for the 911th Technical Rescue Engineer Company, Fort Belvoir, Virginia, 10 April 2019

Prepared by Mr. William Whiteford, Environmental Noise Branch

General Medical: 500A, Public Health Surveys

APHC FORM 433-E, JAN 18

EXECUTIVE SUMMARY
ENVIRONMENTAL HEALTH SCIENCES
ENVIRONMENTAL NOISE CONSULTATION
NO. S.0065854-19
NOISE ASSESSMENT FOR THE 911TH TECHNICAL RESCUE ENGINEER COMPANY
FORT BELVOIR, VIRGINIA
10 APRIL 2019

1. PURPOSE

The U.S. Army Public Health Center completed this consultation to provide a noise assessment for the 911th Technical Rescue Engineer Company (TREC) at its current Rubble Training Area location to Fort Belvoir Department of Public Works. The results will assist in determining if 911th TREC training would exceed the criteria of the Fairfax County Code Noise Ordinance in residential areas if the training would be relocated.

2. CONCLUSIONS

The monitoring data show that current training activity generated maximum levels of 60 decibel A-weighted at 400 feet from the activity. However, at the current TREC location, the land use is compatible with the sound levels. If the training were moved to the proposed location, levels would be expected to be audible and at times exceed the county limits at adjacent residential properties.

3. RECOMMENDATIONS

Include the information from this consultation in the environmental analysis documentation for the proposed action.

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FIGURES

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ENVIRONMENTAL HEALTH SCIENCES
ENVIRONMENTAL NOISE CONSULTATION
NO. S.0065854-19
NOISE ASSESSMENT FOR THE 911TH TECHNICAL RESCUE ENGINEER COMPANY
FORT BELVOIR, VIRGINIA
10 APRIL 2019

1. PURPOSE

The U.S. Army Public Health Center completed this consultation to provide a noise assessment for the 911th Technical Rescue Engineer Company (TREC) at its current Rubble Training Area (RTA) location to Fort Belvoir, Department of Public Works. The results will assist in determining if 911th TREC training would exceed the criteria of the Fairfax County Code Noise Ordinance in residential areas if the training would be relocated.

2. REFERENCES AND TERMS

Appendix A contains a list of references used to prepare this consultation. The glossary provides definitions for acronyms, abbreviations, and terms.

3. GENERAL

Fort Belvoir is home to the 911th TREC (911th Engineer Company) assigned to the 12th Aviation Battalion, Army Air Operations Group, Military District of Washington. The mission of the 911th Engineer Company is to respond rapidly to national emergencies within the National Capital Region in support of military and government facilities and tenants. The 911th Engineer Company trains on five different technical rescue disciplines: rope, confined space, structural collapse, trench, and mine and tunnel. The 911th Engineer Company comprises combat engineers, firefighters, horizontal and vertical construction engineers, and various support military occupational specialties who receive training and certification as rescue technicians and mine rescuers (U.S. Army Corps of Engineers, 2018).

To meet mission and training requirements, the 911th TREC currently utilizes an RTA located in the southern region of the Goethals Road Site (Figure 1). The RTA is located at a lower elevation area surrounded by a large hill to the north with random concrete rubble piles (barriers) throughout. To the south is Richmond highway, the east is a vehicle washing facility, and the west is occupied government warehouses. The primary training includes breaking up large concrete slabs with single or multiple jackhammers. The training also includes excavators, cranes, skid loaders, and various other construction vehicles. Training at the RTA occurs on a selective schedule 6-10 weeks out of the year, and may occur several days during those weeks. On days when training occurs, it is typically completed by 3 pm.

4. NOISE ASSESSMENT GUIDELINES

Fairfax County Noise Ordinance 29-15-108.1 states “no person shall permit, operate, or cause any source of sound or sound generation to create a sound which exceeds the limits set forth in the following table titled "Maximum Sound Levels" when measured at the property boundary of the sound source or at any point within any other property affected by the sound” (Appendix B). As shown in Table 1, the maximum allowable level during daytime hours in residential areas is 60 decibel A-weighted (dBA). The data collected for this study are analyzed to determine that if the training operations would be moved to the proposed location, would the 60-dBA sound level be exceeded at nearby residential areas.

Table 1. Fairfax County Noise Ordinance

Use and Zoning District Classification	Time of Day	MAXIMUM SOUND LEVELS	
		Continuous Sound (dBA)	Impulse Sound (dB)
Residential Areas (as defined herein) in Residential Districts	7 a.m. to 10 p.m.	60	100
Residential Areas (as defined herein) in Residential Districts	10 p.m. to 7 a.m.	55	80

Legend:
dB = decibel
dBA = decibel A-weighted
Note:
Source: Fairfax County Noise Ordinance 29-15-108.1.

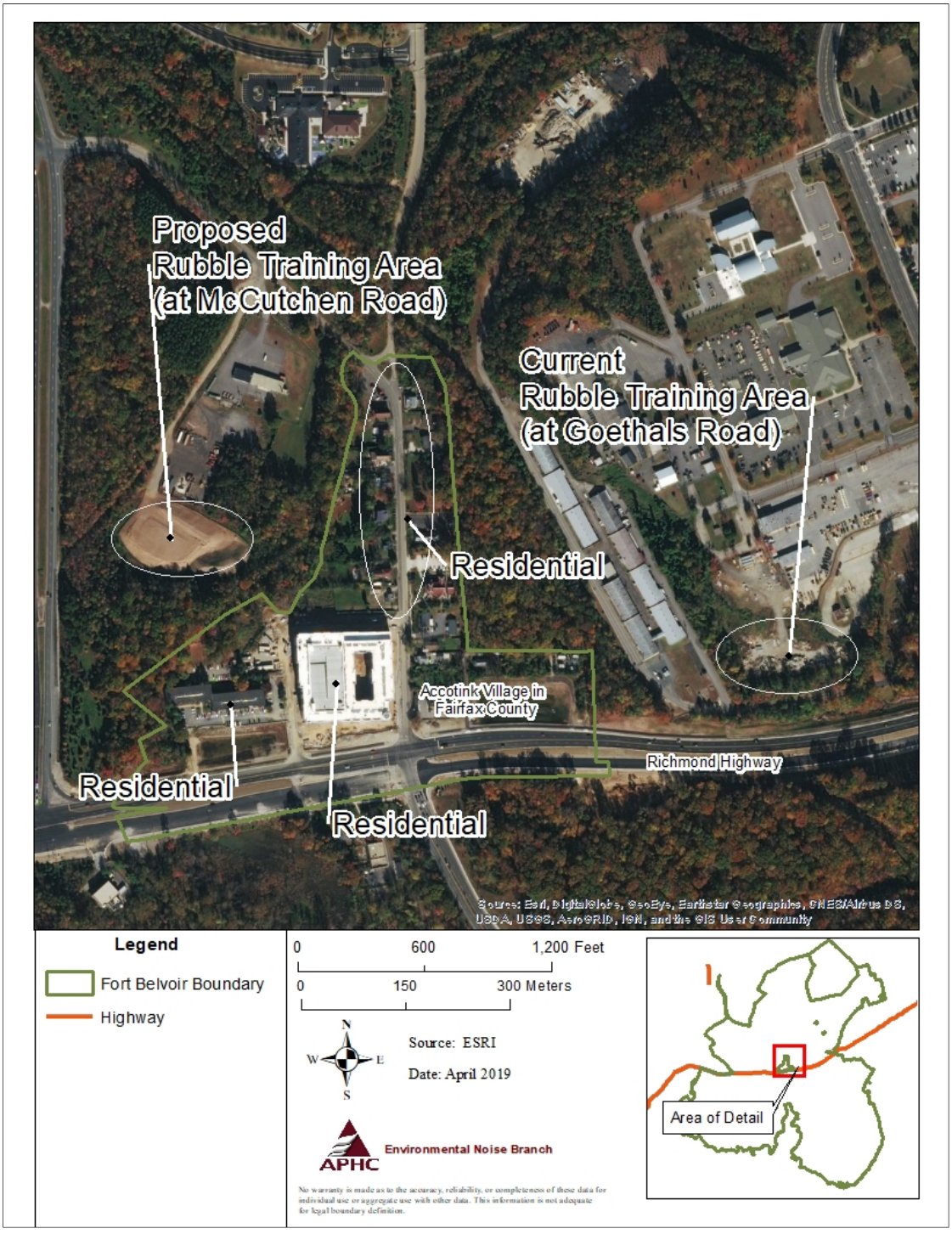

Figure 1. Current and Proposed Rubble Training Areas

5. NOISE MONITORING PROCEDURES

5.1 Noise Metrics and Weighting

The Maximum level (Lmax) is the greatest sound level measured on a sound level meter during a designated time, interval, or event. The metric is useful for approximating how humans judge loudness of an event.

The L90 is the sound level exceeded 90 percent of the time during a designated time interval. For documenting the background, or ambient sound levels, the use of the L90 metric is recommended (Downing and Hobbs, 2003; Plotkin, 2002).

A-weighted decibels, abbreviated dBA, are an expression of the relative loudness of sounds in air as perceived by the human ear. In the A-weighted system, the decibel values of sounds at low frequencies, which humans cannot hear well, are reduced. A-weighted levels are used to measure most common sounds such as transportation. All sound levels in this consultation utilize the A-weighting network unless indicated otherwise.

5.2 Noise Monitoring Equipment and Instrumentation

Seven automated Larson Davis Sound Level Meters (SLM) (model 824), condenser microphones (model 2559), and preamplifiers (model 902) captured sound levels. A Metrosonics precision acoustic calibrator (model CL304) calibrated the microphones at a peak sound pressure level of 102 decibel (dB) reference 20 x 10^{-6} pascals at 1,000 hertz.

All SLMs were set to a “slow” setting and A-weighted to capture the Lmax and L90 for each 1-minute interval. The slow time weighting records sound levels at 1-second intervals. When compared with fast time weighting, this smoother level history can give you a better indication of the average noise level in an environment where it is constantly changing. The SLM clocks were synchronized to a cellular clock network.

5.3 Monitoring Sites

Figure 2 details the monitoring sites located at the current RTA. Site 7 was located closest to the activity (100 feet). The other six sites were located at 200- and 400-foot distances from the source. Additionally, since propagation conditions (especially wind) can greatly influence received levels, sites were located in multiple directions from the source. Table 2 contains a description of the sites.

Table 2. Description of Monitoring Sites

Monitoring Site	Distance from Monitoring Site to Jackhammer (feet)	Elevation MSL (feet)	Direction in Regards to Jackhammer	Monitoring Site Description
Jackhammer	n/a	111	n/a	Centralized in the RTA
Site 1	400	94	West	Near government warehouses
Site 2	200	107	West	In the RTA, tall grassy field
Site 3	400	130	North	Gated entrance location to RTA
Site 4	200	129	North	Next to dirt road access to RTA
Site 5	400	119	East	In Vehicle Washing Facility area
Site 6	200	116	East	In Vehicle Washing Facility area
Site 7	100	118	North	Next to dirt road access to RTA

Legend:
MSL = mean sea level
n/a = not applicable
RTA = Rubble Training Area

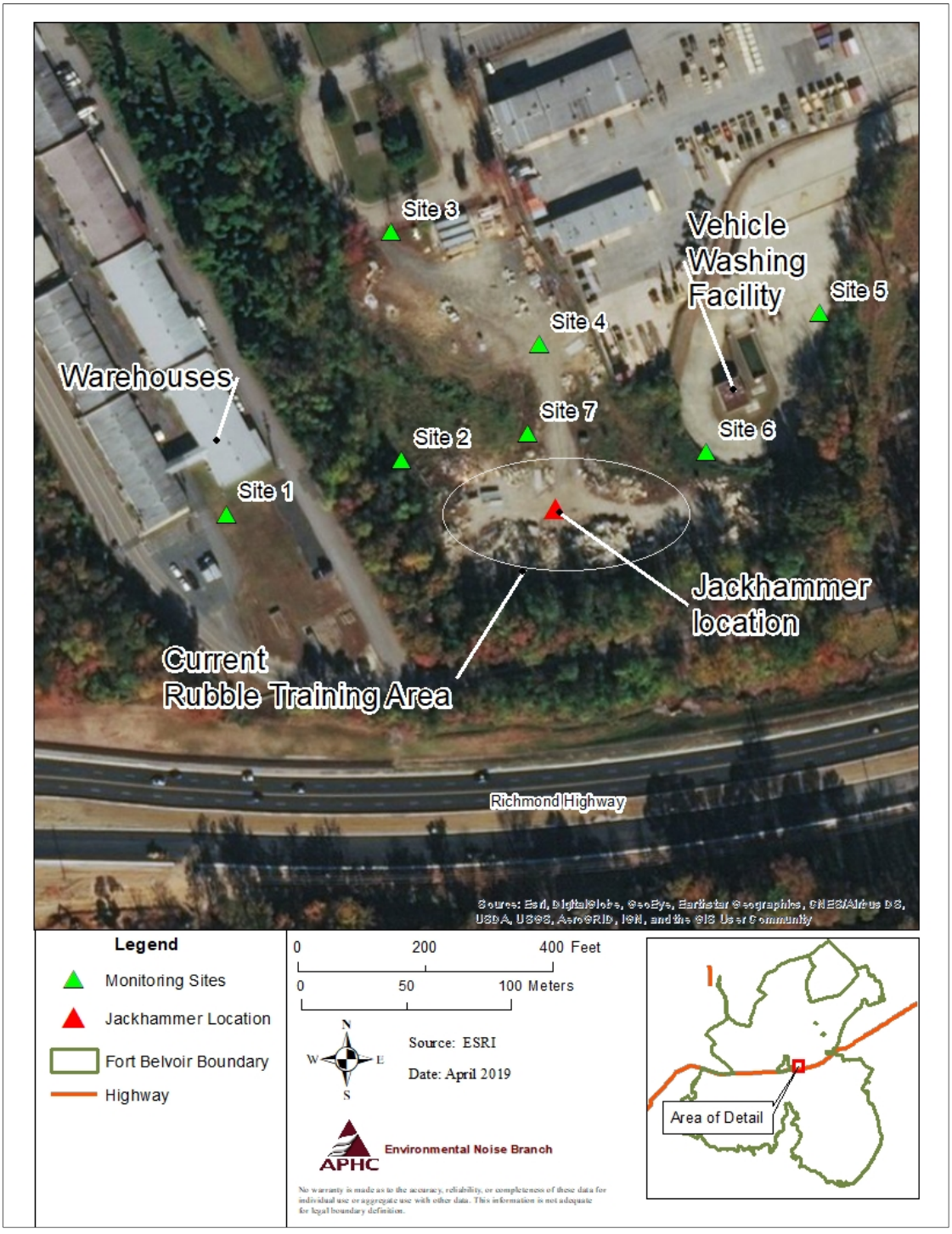

Figure 2. Monitoring Site Locations

6. DATA ANALYSIS

6.1 General

The 911th TREC utilized TE-1000 electric jackhammer(s) powered by a continuously running rescue vehicle. Both the jackhammer and accompanying rescue truck noise are assigned "Jackhammer" noise in this study.

Jackhammer training along with excavators, cranes, skid loaders, and various other construction vehicles are assigned "Jackhammer + other construction" noise in this study. This equipment was not stationary and there was limited movement in the RTA.

Monitoring took place during a typical 1-day training activity. The training consisted of periods of singular and multiple jackhammering without the use of other construction equipment. All other training included both jackhammer and other construction noises.

Data at each site were compared to "ground truthing" notes. The notes consisted of personnel documenting what they heard or encountered at an assigned monitoring site. Extraneous sources of data (e.g., aircraft, fire engines, transient vehicles passing by microphones, and Soldiers yelling near microphone) were omitted to ensure reliability. The results in Table 3 (L90) and Table 4 (Lmax) are logarithmically averaged.

6.2 Findings

Ambient sound levels were at or below 50 dBA at all monitoring locations (Table 3). All sites saw an increase in sound levels during training activity.

As shown in Table 4, the training exceeded the 60-dBA limit for Fairfax County at Site 1 (400 feet) throughout morning and afternoon training hours. Although jackhammers were audible and measureable, the highest levels were obtained when additional construction equipment was operating concurrently. Data indicated that levels were 3 to 5 dBA higher when comparing multiple construction activity to jackhammers alone (excluding Site 2). Site 2, which is located in the western portion of the RTA, experienced increased excavator activity in the afternoon (13:51–15:00); thus, elevated levels.

The topography at the current RTA location could be described as a “fishbowl” with the training area at a lower elevation surrounded by a large natural hill to the north, and smaller manmade berms throughout. Sites 3 and 5 (each at 400 feet) showed barrier and possibly wind-related effects that lowered levels when compared to Site 1.

Table 3. Ambient Measurements (L90)

Noise Sampling Time (a.m./p.m.)	Description of Activity at Rubble Training Area	Average L90 (dBA)						
		Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7
11:44 – 12:54	Ambient	49.9	48.5	48.4	49.2	50.0	49.6	48.1

Legend:
dBA = decibel A-weighted
L90 = sound level equaled or exceeded 90% of the time.

Table 4. Jackhammer and Other Construction Measurements (Lmax)

Noise Sampling Time (a.m./p.m.)	Description of Activity at Rubble Training Area	Average Lmax (dBA)						
		Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7
10:17 – 10:37	Jackhammers (multiple)	54.9	56.3	52.6	66.0	54.0	55.7	77.2
10:40 – 10:48	Jackhammers + other construction	63.0	69.2	55.3	71.5	57.7	64.4	74.7
11:03 – 11:25	Jackhammers + other construction	64.0	70.0	57.6	69.7	56.7	64.3	75.5
13:06 – 13:15	1 Jackhammer	62.0	56.3	52.1	64.8	53.2	57.8	75.2
13:17 – 13:29	2 Jackhammers	62.3	58.2	52.5	64.5	53.4	60.0	74.8
13:30 – 13:39	3 Jackhammers	60.1	56.4	51.7	66.2	53.1	60.8	75.4
13:41 – 15:00	Jackhammers[a] + other construction	64.5	74.2	56.5	67.7	54.3	58.9	76.2

Legend:
dB = decibel A-weighted
Lmax = maximum noise level
Note:
[a]Jackhammer activity moved 100 feet northwest of location identified in Figure 2.

7. PROPOSED RTA SITE

7.1 Location

A 15,000-square-foot RTA site has been proposed at the McCutchen Road Site where a new 911th Engineering Company Complex is under construction (Figure 1). The proposed site is located in the southernmost portion of the complex, adjacent to the Accotink Village (an inholding property within Fort Belvoir). The proposed site is at the same elevation as the residential area separated by a thin row of trees. The inholding properties consist of residential buildings due south/southeast of the proposed site as well as multiple single-family homes east of the proposed site. Additionally, the Accotink United Methodist Church and Hoa Nghiem Vietnamese Buddhist Temple are located east of the McCutchen Road site.

7.2 Discussion

To determine what sound levels would be at the proposed sites, the acoustical spherical spreading rule was used. Spherical spreading states that for each doubling of distance from a point source, sound levels will decrease by 6 dBA. At 100 feet from the Jackhammer training (Site 7), maximum levels were approximately 75 to 77 dBA. Using these levels and applying the spherical spreading “doubling of distance” rule, maximum levels would be between 63 and 65 dBA at 400 feet; thus, exceeding county limits at the nearest residential area.

Additionally, the 60 dBA county limit was exceeded at all three of the 200-foot monitoring sites (Sites 2, 4, and 6), and frequently at one of the 400-foot sites (Site 1). There were occasional exceedances recorded at Sites 3 and 5; however, these were considered outlier values and were not the norm.

The topography at the proposed site is unlike the current location. The proposed site is at the same elevation as the nearby residential areas; thus, topological mitigation would be nonexistent. Although there are some trees between the site and the residences, they are not dense and wide enough to offer effective mitigation.

8. CONCLUSIONS

The monitoring data show that current training activity generated maximum levels of 60 dBA at 400 feet from the activity. However, at the current TREC location, the land use is compatible with the sound levels. If the training were moved to the proposed location, levels would be expected to be audible and at times exceed the county limits at adjacent residential properties.

9. RECOMMENDATIONS

Include the information from this consultation in the environmental analysis documentation for the proposed actions.

WILLIAM D. WHITEFORD
Acoustical Engineer

APPROVED:

CATHERINE STEWART
Branch Chief
Environmental Noise

APPENDIX A

REFERENCES

County of Fairfax, Virginia. 2015. Code of Ordinances. Chapter 108.1, *Noise Ordinance*, 29-15-108.1. Available at: https://www.fairfaxcounty.gov/planning-zoning/zoning/noise-ordinance.

Downing, J.M. and C.M. Hobbs. 2003. The Soundscape in Zion National Park. Wyle Report, WR 03-082003, Arlington, Virginia: Wyle Laboratories. March 2003.

Plotkin, Kenneth J. 2002. Review of Technical Acoustical Issues Regarding Noise Measurements in National Parks, Draft Report WR 01-20, Arlington, Virginia. Wyle Laboratories. January 2002.

U.S. Army Corps of Engineers, Baltimore District. 2018. Environmental Assessment for the Proposed Construction and Operation of the 911th Engineer Company Complex Fort Belvoir, Virginia, September 2018.

APPENDIX B

FAIRFAX COUNTY NOISE ORDINANCE (29-15-108.1)

CHAPTER 108.1. - Noise Ordinance.

ARTICLE 1. - General Provisions.

Section 108.1-1-1. - Short title.

This Chapter may be referred to as the "Noise Ordinance" of the County of Fairfax. (29-15-108.1.)

Section 108.1-1-2. - Declarations of findings and policy.

The Board hereby finds and declares that certain noise is a hazard to the public health, welfare, peace and safety and the quality of life of the citizens of Fairfax County; that the people have a right to and should be ensured of an environment free from sound that jeopardizes the public health, welfare, peace and safety or degrades the quality of life; and that it is the policy of the Board to prevent such noise to the extent such action is not inconsistent with Federal or State law. (29-15-108.1.)

ARTICLE 2. - Definitions.

Section 108.1-2-1. - Definitions.

(a) The following words and phrases, when used in this Chapter, shall for the purposes of this Chapter, have the meanings respectively ascribed to them in this Section, except in those situations where the context clearly indicates a different meaning:

(1) A-weighted sound pressure level shall mean the sound pressure level as measured on a sound level meter using the A-weighted network. The level so read shall be abbreviated as dBA.

(2) Board shall mean the Fairfax County Board of Supervisors.

(3) Continuous sound shall mean a sound whose intensity remains essentially constant during the period of observation. Continuous sound shall be defined for measurement purposes as sound which is measured by the slow response setting of a sound level meter.

(4) Decibel shall mean a unit which describes the sound pressure level or intensity of sound. The sound pressure level in decibels is 20 times the logarithm to the base ten of the ratio of the pressure of the sound in microbars to a reference pressure of 0.0002 microbar; abbreviated dB.

(5) Device shall mean any mechanism which is intended to, or which actually produces sound when operated or handled.

(6) Director shall mean the Director of the Fairfax County Department of Planning and Zoning or his/her duly authorized agent.

(7) Discernible shall mean that the sound is sufficiently distinct such that its source can be clearly identified.

(8) Dog Park shall mean either a public or privately owned open space area that is primarily used by dogs not on a leash. A dog park shall not include areas that are located on individual single family residential dwelling lots or a recreational ground.

(9) Dusk shall mean 30 minutes after sunset, which is defined as the moment each day when the top of the sun disappears below the western horizon.

(10) Emergency work shall mean any work performed for the purpose of preventing or alleviating physical injury or illness or property damage threatened or caused by an emergency, including work performed by public service companies when emergency inspection, repair of facilities, or restoration of services is required for the immediate health, safety, or welfare of the community and the operation of police cars, fire trucks, ambulances, helicopters and other vehicles that are responding to emergencies.

(11) Golf course shall mean land area that is either publicly or privately owned and designed for the game of golf with a series of nine or 18 holes each including a tee, fairway and putting green and often one or more natural or artificial hazards. Any remaining portions of a property containing a golf course, including clubhouses, parking areas and other recreational facilities, shall for the purposes of this Chapter be deemed a recreational ground.

(12) Impulse sound shall mean a single or multiple sound event characterized by a rapid rise to a maximum sound pressure of high intensity, followed by a somewhat slower decrease in sound pressure. The duration of an impulse sound event, which includes a combination of rise time, peak amplitude and decay, shall be no more than one second. Impulse sound shall be measured using unweighted peak dB levels and the fast setting of a sound level meter. Impulse sound may include, but is not limited to, sound from weapons fire, pile drivers or blasting.

(13) Instrument shall mean any musical instrument, radio, phonograph, compact disc player, amplifier or any other device which produces, reproduces or amplifies sound.

(14) Landfill shall mean a site used in a controlled manner by a person for the dumping of debris; or a disposal site operated by means of compacting and covering solid waste with an approved material. This term is intended to include both debris landfills and sanitary landfills as defined in Chapters 104 and 109.1 of the Fairfax County Code.

(15) Mixed use area means the parcel on which one or more residential dwellings and at least one other non-residential use are located and any contiguous rights-of-ways, roads, streets, lanes, sidewalks, or other such means of egress and ingress to any such parcel.

(16) Motor vehicle shall mean any vehicle which is self-propelled or designed for self-propulsion including but not limited to, automobiles, trucks, truck-trailers, semitrailers, campers, motorcycles, mini-bikes, motor scooters and motor boats. Motor vehicles shall not include lawn mowers or other lawn equipment and nothing herein shall conflict with state law.

(17) Noise shall mean the intensity, frequency, duration or character of sounds from a single source or multiple sources that may degrade the public health, safety or welfare.

(18) Non-residential area shall mean a parcel in a residential district that does not contain a residential dwelling and contains non-residential uses such as schools, parks, places of worship, fire stations and sewage treatment plants.

(19) Person shall mean any individual, corporation, cooperative, partnership, firm, association, trust, estate, private institution, group, agency, or any legal successor, representative, agent, or agency thereof.

(20) Plainly audible shall mean the sound can be heard by the human ear with or without a medically approved hearing aid or device.

(21) Powered model vehicles shall mean any mechanically powered vehicle, either airborne, waterborne or landborne, which is not designed to carry persons including, but not limited to, model airplanes, boats, cars, drones and rockets.

(22) Recreational grounds shall mean any playground, athletic field, park, school or open space area that is publicly or privately owned, including land owned by a homeowner's or condominium association. Recreational grounds shall not include areas that are located on individual single family residential dwelling lots or dog parks.

(23) Residential area shall mean a parcel on which a residential dwelling is located and any contiguous rights-of-way, roads, streets, lanes, sidewalks, or other such means of egress and ingress to any such parcel.

(24) Residential dwelling shall mean any structure in which one or more persons live on a permanent or temporary basis, including, but not limited to, single family dwellings, multiple family dwellings, hotels and motels.

(25) Road right-of-way shall mean any street, avenue, boulevard, highway or alley which is open to the public.

(26) Sound shall mean an oscillation in pressure, particle displacement, particle velocity or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium. The description of sound may include any characteristic of such sound, including duration, intensity and frequency.

(27) Sound level meter shall mean an instrument to measure sound pressure levels which shall meet or exceed the American National Standards Institute (ANSI) Standard S1.4 for a "Type Two" meter and shall be calibrated by the manufacturer or a company that can certify the calibration at least one time each year.

(28) Sound generation or to generate sound shall mean any conduct, activity or operation, whether human, mechanical, electronic or other, including but not limited to, any animal or bird, and any instrument, machine or device, whether continuous, intermittent or sporadic, and whether stationary or ambulatory in nature, which produces or results in a sound that is plainly audible and discernible to the human ear.

(29) Transportation facility shall mean bus and rail facilities to include stations, platforms, garages, maintenance and staging areas, associated parking areas, and other associated mechanical appurtenances such as traction power stations, communication rooms, train control rooms, tie-breaker stations and other similar facilities

(30) Zoning administrator shall mean the Fairfax County Zoning Administrator or his/her duly authorized agent.

(31) Zoning district classification: Refers to the scheme of land use classification contained in the Fairfax County Zoning Ordinance. (29-15-108.1.)

ARTICLE 3. - Administration, Penalties and Authority and Duties.

Section 108.1-3-1. - Administration and Enforcement.

(a) The provisions of this Chapter shall be administered and enforced by the Director and/or his/her duly authorized agents, including the Zoning Administrator, the Department of Code Compliance, and the Department of Public Works and Environmental Services, and shall be assisted by other County departments as applicable.

(b) In addition, the provisions of this Chapter may also be enforced by the Police Department. If so enforced by the Police Department, the civil remedies referenced below shall not be applicable.

(c) The person operating, controlling or allowing the sound generation or source shall be guilty of any violation caused by that generation or source. If it cannot be determined which person is operating, controlling or allowing the sound generation or source, any owner, tenant, resident or manager physically present on the property where the violation is occurring is rebuttably presumed to be operating or controlling the sound generation or source.

(d) Except as hereinbefore provided in Subparagraph (a) of this Section, a warrant may be obtained from a magistrate for the violation of any provision of this Chapter only upon the sworn complaint of a police officer or two persons who are not members of the same household alleging the specific violation complained of, that either or both of the complainants requested or made a reasonable attempt to request abatement of the violation, and that the violation continued after such request. Provided, however, that if there be no more than one household within one-half mile of the sound source, a warrant may be issued upon the sworn complaint of one person making the foregoing allegations.

(e) For purposes of this Chapter, whenever a time parameter includes 12 a.m. or midnight, that time parameter shall be construed to end at the specified time on the following day.

(f) All sound requiring analysis or measurement under this Chapter shall be such sound that traverses a property boundary or a partition between residential dwellings. (29-15-108.1.)

Section 108.1-3-2. - Penalties.

(a) Any violation of any provision of this Chapter shall constitute a Class 2 misdemeanor and upon conviction thereof, shall be punishable up to no more than six months in jail and a fine of not more than $1,000, either or both. Failure to abate any such violation within the time period established by the Court shall constitute a separate Class 2 misdemeanor offense.

(b) In lieu of the criminal penalties set forth above, a violation of any provision of this Chapter may be punishable by a civil penalty of not more than $250, or $500 for each subsequent offense. However, this civil penalties provision shall not apply to noise generation in connection with business being performed on industrially zoned property, nor shall this provision apply to railroads or to sound emanating from any area permitted by the Virginia Department of Mines, Minerals and Energy or any division thereof.

(c) In addition to, and not in lieu of, the penalties prescribed in this section, the Board may apply to the circuit court for an injunction against the continuing violation of any of the provisions of this Chapter and may seek any other remedy or relief authorized by law. (29-15-108.1.)

Section 108.1-3-3. - Authority and duties of the Director of Planning and Zoning.

In addition to any other authority vested in him by law, the Director or his/her duly authorized agent:

(a) May coordinate the sound control activities of all agencies and departments of the Fairfax County government and advise, consult, and coordinate sound control activities with other local governmental units, state agencies, inter-governmental agencies, the Federal government, and with interested persons and groups with respect to the provisions of this Chapter.

(b) Shall issue such orders, rules and regulations and measurement procedures and methodologies as may be necessary to effectuate the provisions of this Chapter and enforce the same by all appropriate administrative and judicial proceedings.

(c) May enter and inspect any property, premises or place at any reasonable time for the purpose of ascertaining compliance with any provision of this Chapter when granted permission by the owner, or some person with reasonably apparent authority to act for the owner. When permission is refused or cannot be obtained, a proper search warrant may be obtained from a Court of competent jurisdiction upon showing of probable cause to believe that a violation of this Chapter may exist.

(d) May obtain warrants for violations of any of the provisions of this Chapter and apply to any court of competent jurisdiction for such injunctive relief as shall be necessary to terminate continuing violations of this Chapter.

(e) May perform such other acts as may be necessary to carry out the functions of this Chapter and such other acts as may be specifically enumerated herein. (29-15-108.1.)

ARTICLE 4. - Prohibited Sounds.

Section 108.1-4-1. - Specific prohibitions.

The following are violations of this Chapter:

(a) Unless otherwise excepted by this Chapter, the use of a loudspeaker or other instrument that is mounted on the exterior of any structure or motor vehicle between 10 p.m. and 7 a.m. However, this prohibition shall not apply to loudspeakers that are required by State or Federal regulations or provide a public service announcement, such as train or bus arriving.

(b) Any action related to the construction, repair, maintenance, remodeling or demolition, grading or other improvement of real property in the outdoors between 9 p.m. and 7 a.m. on Sunday through Thursday, or between 9 p.m. and 9 a.m. on Fridays, Saturdays, and the day before a Federal holiday.

(c) Outdoor repairing or modifying any motor vehicle or other mechanical device between 9 p.m. and 7 a.m.

(d) The operation of powered model vehicles in the outdoors between 9 p.m. and 7 a.m.

(e) Outdoor collection of trash or recyclable materials in residential districts and/or within 100 yards of a residential dwelling between 9 p.m. and 6 a.m.

(f) Any person that operates or permits to operate any motor vehicle, mechanical device, noise source, or any combination thereof, at a landfill between 9 p.m. and 6 a.m. and when located within 100 yards of a residential dwelling.

(g) Outdoor loading or unloading trucks within 100 yards of a residential dwelling between 9 p.m. and 6 a.m.

(h) Unless otherwise addressed by this chapter, the operation of power lawn equipment, including but not limited to lawn mowers, leaf blowers, chain saws, trimmers and edgers:

(1) Between 9 p.m. and 7 a.m. when operated within 100 yards from a residential dwelling, or

(2) Between 9 p.m. and 6 a.m. when operated 100 yards or more from a residential dwelling, or

(3) Between 9 p.m. and 5:30 a.m. for golf course maintenance when operated 50 yards or more from a residential dwelling; or

(4) Between 9 p.m. and 7 a.m. for golf course maintenance when operated less than 50 yards from a residential dwelling.

Notwithstanding the above, the operation of leaf blowers and chain saws on all property, including on golf courses, is prohibited between 9 p.m. and 7 a.m.

(i) Unless otherwise excepted by this Chapter, the operation of mechanical devices within 100 yards of a residential dwelling for the cleaning of outdoor parking, pedestrian and/or loading areas between 9 p.m. and 7 a.m.

(j) Unless otherwise excepted by this Chapter, any person, motor vehicle or instrument that permits, operates, or causes any source of sound or sound generation to create a sound that is plainly audible in any other person's residential dwelling with the doors and windows closed:

(1) Between 10 p.m. and 7 a.m. on Sunday through Thursday, or between 11 p.m. and 7 a.m. on Fridays, Saturdays, and the day before a Federal holiday; or

(2) Between 1 a.m. and 7 a.m. on Saturdays, Sundays and federal holidays when the residential dwelling is located in a mixed use area and the sound is emanating from a location that is not another residential dwelling.

In addition, the source of sound or sound generation must be discernible regardless of whether such doors and windows are closed.

(k) Any owner or person in control of any animal that allows or otherwise permits any such animal to bark, howl, bay, meow, squawk, quack, crow or make such other sound:

(1) Between 10 p.m. and 7 a.m. that is plainly audible in any other person's residential dwelling with doors and windows closed and the source of sound generation shall be discernible regardless of whether such doors or windows are closed; or

(2) Between 7 a.m. and 10 p.m. when the animal sound is plainly audible and discernible across real property boundaries or through partitions common to residential dwellings and such sound can be heard for more than five consecutive or non-consecutive minutes in any ten-minute period of time. Animal sounds that can be heard for less than five consecutive or non-consecutive minutes in any ten-minute period shall not be subject to this Chapter.

The provisions of this paragraph shall not apply to any animal that, at the time of the sound or sound generation, was responding to pain or injury or was protecting itself, its kennel, its offspring, or a person from an actual threat; when the animal is a police dog that is engaged in the performance of its duties at the time of making the sound; or when part of a bona fide agricultural operation. This provision shall apply

to all animal sounds emanating from the same property. Notwithstanding the provisions of this paragraph, animals located in a dog park shall be subject to the provisions of Par. (l) below.

(l) The use of dog parks between dusk and 7 a.m. Sunday through Thursday, or between dusk and 8 a.m. on Friday, Saturday and the day before a Federal holiday. (29-15-108.1.)

Section 108.1-4-2. - Sound generation.

(a) Unless otherwise addressed by this Chapter, no person shall permit, operate, or cause any source of sound or sound generation to create a sound which exceeds the limits set forth in the following table titled "Maximum Sound Levels" when measured at the property boundary of the sound source or at any point within any other property affected by the sound. When a sound source can be identified and its sound measured in more than one zoning district classification, the sound shall not exceed the sound limits set forth in the following table for the zoning district or area in which the source of sound is located, and the sound levels on the affected properties shall not exceed the sound levels set forth in the table for the affected property.

MAXIMUM SOUND LEVELS			
Use and Zoning District Classification	Time of Day	Continuous Sound (dBA)	Impulse Sound (dB)
Residential Areas (as defined herein) in Residential Districts	7 a.m. to 10 p.m.	60	100
Residential Areas (as defined herein) in Residential Districts	10 p.m. to 7 a.m.	55	80
Non-Residential Areas in Residential Districts	All	60	100
Mixed Use Area (as defined herein)	7 a.m. to 10 p.m.	65	100
Mixed Use Area (as defined herein)	10 p.m. to 7 a.m.	60	80
Commercial Districts	All	65	100
Industrial Districts	7 a.m. to 10 p.m.	72	120
Industrial Districts	10 p.m. to 7 a.m.	65	100

(29-15-108.1.)

ARTICLE 5. - Exceptions.

Section 108.1-5-1. - Exceptions.

No provisions of this Chapter shall apply to:

(a) The emission of sound for the purpose of alerting persons to the existence of an emergency, provided that such alarm signals cease once any such threat is no longer imminent.

(b) The emission of sound in the performance of emergency work.

(c) Activities for which the regulation of sound has been preempted by Federal or State law.

(d) Motor vehicles on road right-of-way.

(e) Operation of airplanes and helicopters.

(f) Trains traveling on tracks located in railroad right-of-way or easements, including trains serving an interstate area and trains serving the Washington metropolitan region, and railroad track maintenance.

(g) Back-up generators subject to the following:

(1) The operation of back-up generators during power outages resulting from storms and other emergencies.

(2) The routine testing and maintenance of back-up generators provided that such activity occurs between 7 a.m. and 9 p.m. and the routine testing shall not occur for more than two consecutive or non-consecutive hours in any one day. The testing and maintenance of such generators is prohibited for (i) more than two consecutive or non-consecutive hours in any one day; or (ii) during the hours of 9 p.m. to 7 a.m.

(h) Mechanical equipment, to include heat pumps, air conditioners and swimming pool pumps, located on property containing single family detached or attached residential dwellings that is operating in accordance with the manufacturer's specifications and serves the dwelling and/or permitted accessory structure.

(i) Activities associated with the removal of snow and/or ice from walkways, parking areas and travel lanes.

(j) Impulse sound that does not exceed the maximum impulse sound levels contained in the Maximum Sound Levels Table contained in Sec. 108.1-4-2 above.

(k) Activities related to the construction, repair, maintenance, remodeling or demolition, grading or other improvement of real property between 7 a.m. and 9 p.m., provided that such activity does not exceed 90 dBA in residential areas, and it shall be a violation of this Chapter to commence such activity before 9 a.m. on Saturdays, Sundays, and Federal holidays.

(l) Operation of power lawn equipment:

(1) Between 7 a.m. and 9 p.m. when operated within 100 yards from a residential dwelling; or

(2) Between 6 a.m. and 9 p.m. when operated 100 yards or more from a residential dwelling; or

(3) Between 5:30 a.m. and 9 p.m. for golf course maintenance when operated 50 yards or more from a residential dwelling; or

(4) Between 7 a.m. and 9 p.m. for golf course maintenance when operated less than 50 yards from a residential dwelling.

Notwithstanding the above, the operation of leaf blowers and chain saws is not permitted prior to 7 a.m. on any property, including on golf courses.

(m) Operation of mechanical devices to sweep or clean outdoor parking, pedestrian and/or loading areas, except it shall be a violation of this Chapter to operate such devices when located within 100 yards of a residential dwelling between 9 p.m. and 7 a.m.

(n) Trash and recycling collection, except it shall be a violation of this chapter to collect trash or recyclable materials in the outdoors in residential districts and/or within 100 yards of a residential dwelling between 9 p.m. and 6 a.m.

(o) Operation of a landfill, except it shall be a violation of this Chapter for any person to operate or permit to operate any motor vehicle, mechanical device, noise source, or any combination thereof, at a landfill between 9 p.m. and 6 a.m. and when located within 100 yards of a residential dwelling.

(p) The testing of plainly audible and discernible signal devices which are employed as warning or alarm signals in case of fire, emergency, theft, or burglary, or imminent danger, provided that such testing occurs between 7 a.m. and 9 p.m. and shall not occur for more than two consecutive or nonconsecutive hours in any one day. The testing of such signal devices is prohibited for (i) more than two consecutive or non-consecutive hours in any one day; or (ii) during the hours of 9 p.m. to 7 a.m.

(q) Operation of transportation facilities between 7 a.m. and 9 p.m.

(r) Activity on recreational grounds customarily associated with its intended use shall not be subject to the provisions of this Chapter between 7 a.m. to 10 p.m. on Sunday through Thursday, or between 7 a.m. and 11 p.m. on Friday and Saturday or the day before a Federal holiday. The use of loudspeakers or instruments associated with such activities shall be prohibited between 10 p.m. and 7 a.m. and shall be subject to the Maximum Sound Levels Table in Sect. 108-1.4.2 between 7 a.m. and 10 p.m.

(s) The use of dog parks between 7 a.m. and dusk Monday through Friday, or between 8 a.m. and dusk on Saturday, Sunday and Federal holidays.

(t) Bells, carillons, and other calls to worship shall not be subject to this chapter between 7 a.m. and 10 p.m. provided that any such sounds do not occur for more than five consecutive or nonconsecutive minutes in any one hour. (29-15-108.1.)

ARTICLE 6. - Waivers

Section 108.1-6-1. - Waivers.

(a) Any person responsible for any noise source may apply to the Director for a waiver or partial waiver from the provisions of this Chapter. The Director may grant such waiver or partial waiver if he/she finds that:

(1) The noise does not endanger the public health, safety or welfare; or

(2) Compliance with the provisions of this Chapter from which waiver is sought would produce serious hardship without producing equal or greater benefit to the public; and

(3) Reasonable efforts shall be made to minimize the adverse impacts of the noise on adjacent properties.

(b) The waiver application shall be filed at least 14 days prior to the date on which the waiver or partial waiver is to take effect.

(c) In determining whether to grant such waiver, the Director shall consider the time of day when noise will occur, duration of the noise, its loudness relative to the required limits of this Chapter, whether the noise is intermittent or continuous, its extensiveness, ambient noise levels, the technical and economic feasibility of bringing the noise into conformance with this Chapter and such other matters

as are reasonably related to the impact of the noise on the health, safety and welfare of the community and the degree of hardship which may result from the enforcement of the provisions of this Chapter.

(d) No waiver or partial waiver issued pursuant to this Section shall be granted for a period to exceed one year, but any such waiver or partial waiver may be renewed for like periods if the Director shall find that such renewal is justified after again applying the standards set forth in this Section. No renewal shall be granted except upon application therefor.

(e) Any person aggrieved by a decision of the Director made pursuant to this Section may obtain review of such decision by the County Executive by delivering a written statement of grievance to the Office of the County Executive within 30 days from the date of the decision.

The County Executive shall review all statements of grievances and shall, within 60 days from the date of the Director's decision, either affirm or set it aside, making such further order as shall be necessary to effectuate the provisions of this Section. (29-15-108.1.)

ARTICLE 7. - Proffered and Development Condition Applicability

Section 108.1-7-1. - Proffered and Development Condition Applicability.

The provisions of this Chapter shall not negate any applicable proffered condition, development condition, special permit or special exception condition pertaining to noise or sound. Any condition that refers to the Noise Ordinance shall be deemed to refer to the text of the Noise Ordinance in effect at the time the condition was approved. (29-15-108.1.)

ARTICLE 8. - Severability

Section 108.1-8-1. - Severability.

If any of the Articles, Sections, Paragraphs, sentences, clauses, or phrases of this Chapter shall be declared unconstitutional or invalid by the valid judgment or decree of a court of competent jurisdiction, such unconstitutionality or invalidity shall not affect the validity of the Chapter in its entirety or any of the remaining Articles, Sections, Paragraphs, sentences, clauses, and phrases. (29-15-108.1.)

GLOSSARY

Acronyms/Abbreviations

APHC
U.S. Army Public Health Center

dB
Decibels

dBA
Decibels, A-weighted

L90
Sound level equaled or exceeded 90% of the time

Lmax
Maximum sound level

MSL
Mean Sea Level

RTA
Rubble Training Area

SLM
Sound Level Meter

TREC
Technical Rescue Engineer Company

Terms

A-weighted Sound Level
The ear does not respond equally to sounds of all frequencies, but is less efficient at low and high frequencies than it is at medium or speech range frequencies. Thus, to obtain a single number representing the sound pressure level of a noise containing a wide range of frequencies in a manner approximating the response of the ear, it is necessary to reduce, or weight, the effects of the low and high frequencies with respect to the medium frequencies. Thus, the low and high frequencies are de-emphasized with the A-weighting. The A-scale sound level is a quantity, in decibels, read from a standard sound-level meter with A-weighting circuitry. The A-scale weighting discriminates against the lower frequencies according to a relationship approximating the auditory sensitivity of the human ear. The A-scale sound level measures approximately the relative "noisiness" or "annoyance" of many common sounds.

Decibels (dB)
A logarithmic sound pressure unit of measure.

Noise
Any sound without value.