ENVIRONMENTAL ASSESSMENT

FOR THE

SEMPER FIDELIS MEMORIAL PARK TRAIL EXPANSION PROJECT

AT MARINE CORPS BASE QUANTICO

PRINCE WILLIAM COUNTY, VIRGINIA

Prepared by:

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LEAD AGENCY: Marine Corps Heritage Foundation

TITLE OF PROPOSED ACTION: Semper Fidelis Memorial Park Trail Expansion

DOCUMENT DESIGNATION: Environmental Assessment

AFFECTED JURISDICTIONS: Marine Corps Base – Quantico

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TITLE Date

ABSTRACT: The Marine Corps Heritage Foundation (MCHF) proposes to expand the existing Semper Fidelis Memorial Park trail system by adding 5,200 linear feet of paved trail, an overlook, a pavilion, memorial sites, and utilities. The purpose of the project is to promote the rich history, traditions, and culture of the United States Marine Corps (USMC) and provide additional trail space and memorials for the community and visitors to honor and reflect on the service and sacrifice of the USMC. Wetland Studies and Solutions, Inc has prepared this Environmental Assessment (EA) to evaluate the potential environmental effects of the Proposed Action (trail expansion) and the No Action Alternative for the following resources: land resources; water resources; coastal resources; biological resources; cultural resources; noise; visual resources; air quality; infrastructure, utilities, and transportation; health and safety; hazardous materials and solid wastes; and environmental justice.

This EA concludes that there would be *no significant adverse effects*, either individually or cumulatively, to the local environment or quality of life resulting from approval of the Proposed Action, and that preparation of an Environmental Impact Statement is not necessary. The public may submit comments on this EA to the point of contact listed above. Comments must be received by September 13, 2021 to be considered in the Final EA.

Executive Summary

The Marine Corps Heritage Foundation (MCHF), in conjunction with the United States Marine Corps (USMC), has prepared this Environmental Assessment (EA) for the proposed Semper Fidelis Memorial Trail Extension project at the National Museum of the Marine Corps (Museum) at Marine Corps Base Quantico (MCBQ) in Prince William County, Virginia. The MCHF proposes to add a new paved trail to an existing concrete multi-use path at the Museum.

This EA has been prepared pursuant to the *National Environmental Policy Act of 1969*, as amended (NEPA), and in accordance with Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] parts 1500-1508) and Marine Corps Order (MCO) 5090.2, which documents the USMC internal operating instructions on how to implement NEPA.

The project area is on the grounds of the National Museum of the Marine Corps, between Interstate 95 (I-95) and (US Route 1), in Prince William County, Virginia.

Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to expand the Semper Fidelis Memorial Trail to continue to promote the rich history, traditions, and culture of the USMC. MCHF has identified the need to provide additional opportunities for the military, the surrounding community, and visitors to honor and reflect on the service and sacrifice of the USMC. The proposed trail expansion is needed to provide additional space to accommodate an increased number of visitors while maintaining the desired level of privacy and quiet.

Proposed Action and Alternatives

The Proposed Action is the extension of the Semper Fidelis Memorial Trail and associated utilities and infrastructure. The trail extension would include the following elements:

- Additional 5,200 linear feet of paved trail that would include three to five loops that tie back to the original trail system.
- An overlook, which would serve as the starting point for the trail, providing users a panoramic view of the trail, memorials, and forest.
- A wood and stone memorial pavilion along the trail to provide shelter for pedestrians.
- Rally points, benches, memorial sites, and wall plaques.
- Underground utilities, including water, communication, and electrical.
- Two bridges to span wetlands: a wooden footbridge and a recommissioned girder bridge providing access from the existing trail to the new trail for pedestrians and maintenance vehicles, respectively.

NEPA, its implementing regulations, and the USMC policy for implementing NEPA (MCO 5090.2) require that a range of reasonable alternatives be evaluated. The MCHF initially considered, but dismissed, the following alternatives:

- Alternative 1 would include construction of pedestrian-only bridges (no vehicle access), and would not include the overlook. The trail system would be shorter than the Proposed Action and was not designed to avoid mature trees or with the consideration of existing site surface water drainage patterns.
- Alternative 2 includes construction of the overlook and both pedestrian and vehicle-accessible bridges. The trail would also pass close to the General Lejeune Memorial. This alternative was ultimately dismissed because of its proximity to the General Lejeune Memorial.
- Alternative 3 is shorter than both previous alternatives and pulls the trail system further south to avoid the General Lejeune Memorial. It was dismissed after examining site features related to constructability, including grading and drainage.

The No Action Alternative serves as a benchmark against which proposed Federal actions are evaluated. This EA includes an evaluation of potential effects from the No Action Alternative.

Environmental Consequences

Table ES-1 lists the resource areas evaluated in the EA, and a summary of effects that may result from the Proposed Action and the No Action Alternative.

Table ES-1: Effects Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
Land Resources (Land Use, Topography, and Soils)	Long-term adverse effects on soils would occur due to removal and permanent loss of topsoil for site leveling and grading. Minimal long-term beneficial effects due to implementation of stormwater management and Erosion and Sediment Control (E&SC) plans.	No effects.
Water Resources	Short- and long-term minimal adverse effects due to construction of bridges over wetlands. Minimal short-term effects to surface waters may occur due to transport of sediment in stormwater from soils disturbed during construction.	No effects.
Coastal Resources	No effects.	No effects.
Biological Resources (Vegetation, Wildlife & Habitat, Threatened and Endangered Species)	Temporary adverse effects to wildlife would include disturbance from construction noise and increased human presence during construction activities. Long-term indirect adverse effects would occur from additional noise and human presence in the project area and removal of habitat including up to six acres of mature trees. USFWS concurred with the MCHF's determination of effects to threatened and endangered species.	No effects.

Technical Resource Area	Proposed Action	No Action Alternative
Cultural Resources (Archaeology and Architectural Properties)	Two resources in the project area, both archaeological: neither is eligible for the National Register of Historic Places (NRHP). USMC has determined the project would have no adverse effects on historic properties and has requested concurrence from DHR. Their concurrence was received 27 July 2021.	No effects.
Noise	Short-term minor adverse effects due to activities such as construction. No long-term adverse effects.	No effects.
Visual Resources	Short-term minor adverse effects due to construction. No long-term adverse effects.	No effects.
Air Quality and Greenhouse Gases	Negligible temporary adverse effects to air quality due to construction vehicles and equipment. Negligible permanent adverse effects due to an increase in visitor vehicles associated with expansion of Museum facilities.	No effects.
Infrastructure, Utilities, and Transportation	Short-term minor adverse effects due to restricted access and increased traffic during construction. Long-term beneficial effects to site access for the general public and emergency vehicles after construction. No adverse effects to existing utilities or transportation, and no long-term adverse effects to infrastructure.	No effects.
Health and Safety	Negligible short-term adverse effects on health and safety due to construction risks. No long-term adverse effects.	No effects.
Hazardous Materials and Solid Wastes	Short-term adverse effects due to waste produced during construction. No long-term adverse effects are	No effects.

Technical Resource Area	Proposed Action	No Action Alternative
	anticipated.	
Environmental Justice	No short- or long-term disproportionally high and adverse effects to low-income or minority populations. Minor beneficial effects due to increased recreational opportunities.	No effects.

Conclusion

There would be no significant adverse effects, either individually or cumulatively, to the environment or quality of life from the Proposed Action. Therefore, the USMC has determined that preparation of an Environmental Impact Statement is not necessary and that a Finding of No Significant Impact is appropriate. The No Action Alternative was not found to satisfy the purpose of and need for the Proposed Action. As such, the USMC recommends approval of the Proposed Action.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

ACRONYM LIST

AICUZ	Air Installation Compatible Use Zone
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practices
CAA	Clean Air Act
CCB	Center for Conservation Biology
CBPA	Chesapeake Bay Preservation Act
CEQ	Council for Environmental Quality
CFR	Code of Federal Regulations
CMA	Coastal Management Area
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COV	Code of Virginia
CWA	Clean Water Act
CZMP	Coastal Zone Management Program
DCR	Department of Conservation and Recreation
DEQ	Department of Environmental Quality
DHR	Department of Historic Resources
DWR	Department of Wildlife Resources
E&SC	Erosion and Sediment Control
EA	Environmental Assessment
EJ	Environmental Justice
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FCD	Federal Consistency Determination
FPPA	Farmland Protection Policy Act
GHG	Green House Gas
IPAC	Information for Planning and Consultation System
JLUS	Joint Land Use Study
MBTA	Migratory Bird Treaty Act
MCBQ	Marine Corps Base Quantico
MCHF	Marine Corps Heritage Foundation
MCO	Marine Corps Order
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NLEB	Northern Long-Eared Bat
NMFS	National Marine Fisheries Service
NO_x	Nitrous Oxides
NRCS	Natural Resource Conservation Service

NRHP	National Register of Historic Places
OSHA	Occupational Health and Safety Administration
PFO	Palustrine Forested
$PM_{2.5}$	Particulate Matter ≤ 2.5 micrometers
PSS	Palustrine Scrub Shrub
RCRA	Resource Conservation and Recovery Act
RPA	Resource Protection Area
SDWA	Safe Drinking Water Act
SWPPP	Stormwater Pollution Prevention Plan
TPY	Tons Per Year
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USMC	United States Marine Corps
VAC	Virginia Administrative Code
VaFWIS	Fish and Wildlife Information Service
VDACS	Virginia Department of Agriculture and Consumer Services
VCRIS	Virginia Cultural Resource Information System
VMRC	Virginia Marine Resources Commission
VPDES	Virginia Pollutant Discharge Elimination System
VWP	Virginia Water Protection
WOTUS	Waters of the United States
WSSI	Wetland Studies and Solutions, Inc.

1.0 Introduction

The Marine Corps Heritage Foundation (MCHF) in conjunction with the United States Marine Corps (USMC) has prepared this Environmental Assessment (EA) for the proposed Semper Fidelis Memorial Park Trail Extension project at the National Museum of the Marine Corps (Museum) at Marine Corps Base Quantico (MCBQ) in Prince William County, Virginia. The MCHF proposes to add a new paved trail to an existing multi-use trail at the Museum.

The proposed trail would be approximately 5,200 linear feet and would include three to five loops that tie back to the original trail. The new trail would include an overlook, rally points, memorial sites and wall plaques, benches, two bridges to provide access across wetlands, and a memorial pavilion to provide shelter for pedestrians.

This EA has been prepared pursuant to the *National Environmental Policy Act of 1969*, as amended (NEPA), and in accordance with Council on Environmental Quality (CEQ) regulations (40 CFR parts 1500-1508) and Marine Corps Order (MCO) 5090.2, which documents the USMC internal operating instructions on how to implement NEPA. This EA evaluates the potential environmental effects associated with the Proposed Action and the No Action Alternative.

The proposed MCHF trail extension project area lies directly east of Interstate 95 (I-95), west of US Route 1, and south of Virginia Route 619 (Joplin Road) at MCBQ (**Figures 1 and 2**). The existing Museum, parking lot, and General Lejeune Memorial are shown in **Exhibit 1**.

Exhibit 1. Existing Museum Site

Figure 1: Project Location

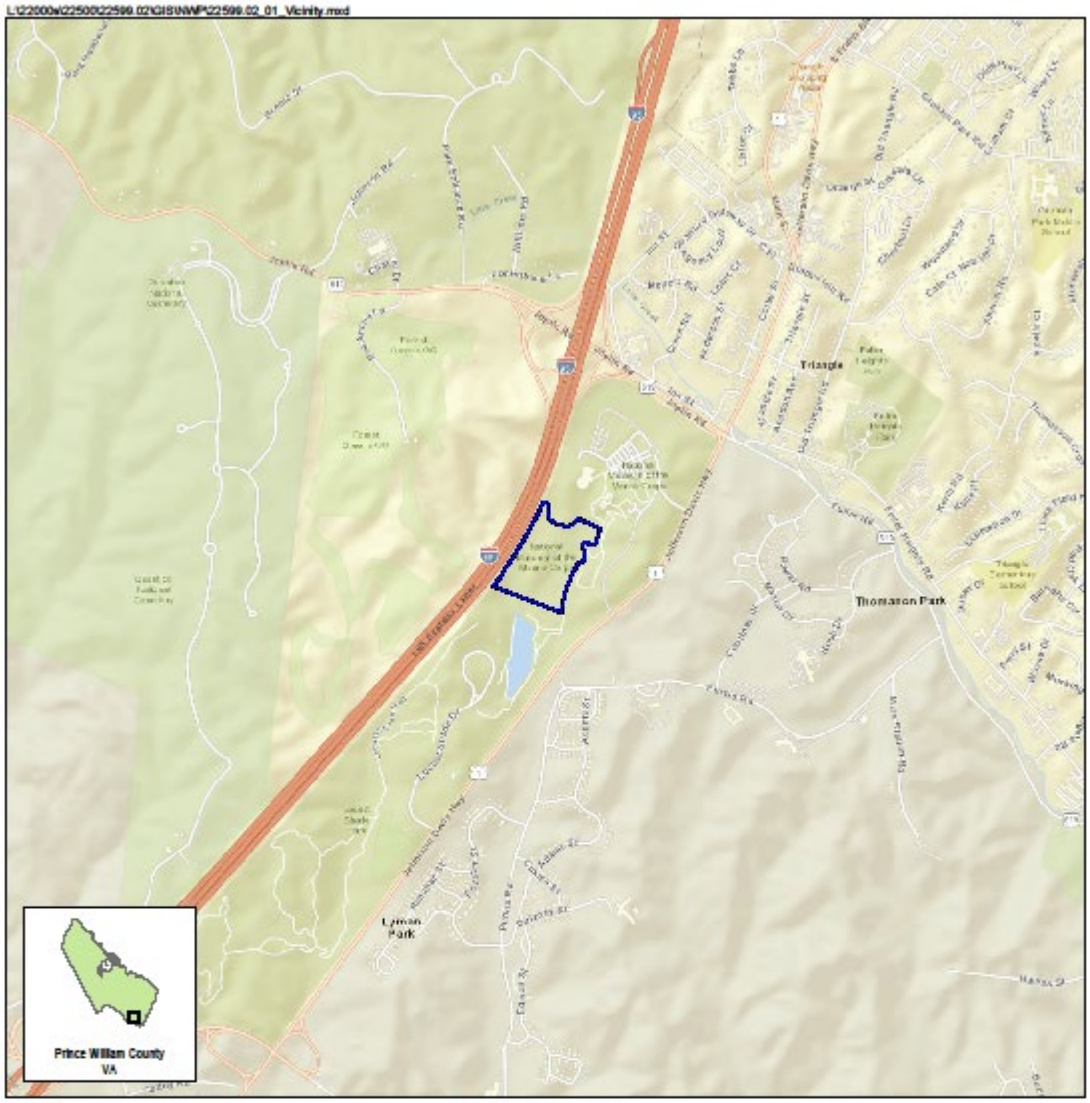
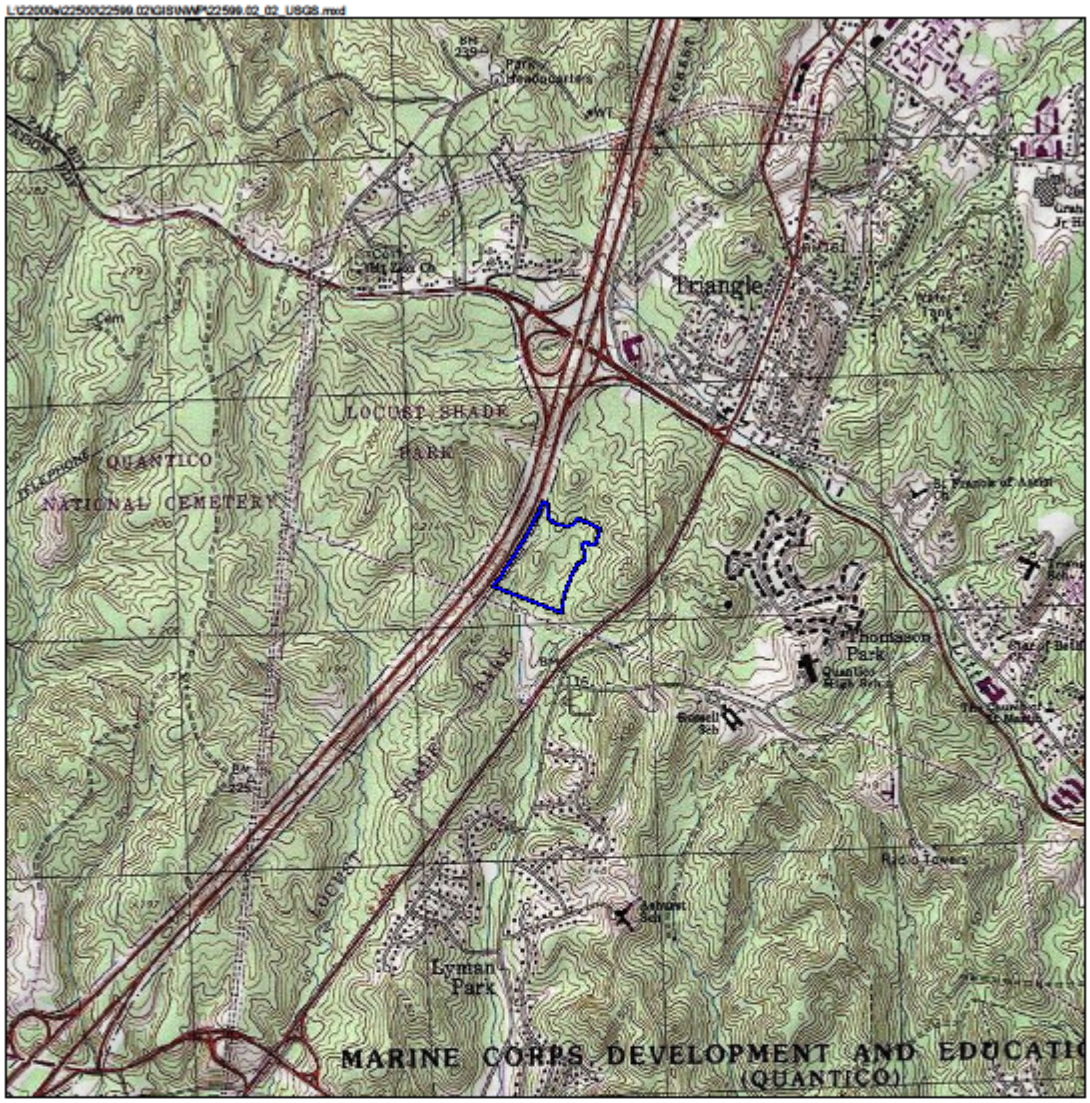


Figure 2: Topography and Project Location



Project Area:
± 24.7 acres

Topography and Project Location
Marine Corps Heritage Foundation Trail Expansion
WSSI #22599.02

NORTH
0 2,000
Feet
Original Scale:
1 " = 2,000 '

Quantico, MD VA 1998
Latitude: 38°32'28"N (38.54124)
Longitude: 77°20'43"W (-77.34523)
Hydrologic Unit Code (HUC): 020700110105
HUC12 Name: Chopawamsic Creek
COE Region: Atlantic and Gulf Coastal Plain

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Figure 2

2.0 Purpose and Need

Purpose

The purpose of the Proposed Action is to expand the Semper Fidelis Memorial Park Trail system to continue to promote the rich history, traditions, and culture of the USMC. The expansion would provide additional areas for monuments, plaques, and bricks to educate and inspire both visitors and donors. The trail would also provide additional rally points and memorial areas for Marine Corps Units and visitors.

Need

One goal of the MCHF is to enhance the quality of life for military personnel and visitors. MCHF has identified the need to provide additional opportunities for the military, the surrounding community, and visitors to honor and reflect on the service and sacrifice of the USMC. During moments of reflection and thought, a level of privacy and quiet is desired.

The number of visitors at the Museum campus, trail, and General Lejeune Memorial is anticipated to increase. The proposed trail expansion is needed to provide additional space to accommodate an increased number of visitors while maintaining the desired level of privacy and quiet.

3.0 Alternatives

This section describes the alternatives carried forth for detailed study and the range of alternatives that were initially considered but eliminated from further evaluation.

3.1 No Action Alternative

In accordance with the regulations on implementing NEPA (40 Code of Federal Regulations [CFR] § 1502.14(d)), the No Action Alternative has been included for evaluation in this EA to serve as a benchmark for the comparison of conditions and effects. The No Action Alternative would maintain the project area in its current undeveloped condition.

3.2 Proposed Action

The Proposed Action would include construction of the following elements:

- an approximately 5,200 linear foot, 10-foot-wide paved trail that would include three to five loops tied back to the original trail system;
- an 800-square-foot overlook to serve as the starting point for the trail, providing a view of proposed memorials through the forest;
- up to five new rally points;
- 28 new memorial sites along the trail, typically consisting of a stone wall and/or monuments, plaques, and bricks, some of which will include benches;
- a 2-inch watermain to serve freeze proof hose bibs, conduits for the connection of utility lines, and poles for security cameras;
- a 20-foot by 30-foot wood and stone memorial pavilion to provide shelter for pedestrians;
- stone retaining walls varying from approximately 1 to 7 feet tall depending on terrain; and
- two bridges that would provide access across wetlands.

Site plans for the 35% design are provided in Appendix A. Elements of the Proposed Action are shown on **Figure 3**.

The permanent footprint of the trail, overlook, rally points, and memorial areas would encompass between four to six acres, depending on final design. The entire trail would comply with *Americans with Disabilities Act* accessibility requirements. No lighting would be installed along the trail. The trail would be paved and wide enough to accommodate vehicles that may need to reach someone in an emergency, or to conduct the maintenance activities described above.

One of the bridges would be constructed of hardwood decking and would be 8 feet wide and 50 feet long and approximately 2 to 5 feet above the ground. The other bridge would be a re-purposed 50-foot-long USMC medium girder bridge. The girder bridge has been used in military operations and would be modified to accommodate pedestrians with decking similar to the other proposed bridge. Railings would be added for pedestrian safety.

The proposed project area and project elements are shown on **Figure 3**. Examples of several project elements including renderings of the memorial pavilion and the wooden bridge, and photos of areas along the existing trail that are similar to what is proposed for this project are provided in **Exhibits 2 through 7**.

To retain the natural character of the area, the MCHF designed the trail to preserve existing vegetation, including mature and specimen trees, to the extent possible. However, up to 6 acres of vegetation, including mature trees, would be permanently removed for construction of the trail.

The project would take approximately two years to complete. Maintenance of the facilities would include vegetation management to keep areas free of undesired vegetation; periodic testing and/or repair of the water lines; debris removal, especially after storms; and cleaning and repair of memorial sites, as needed.

Figure 3: Proposed Action

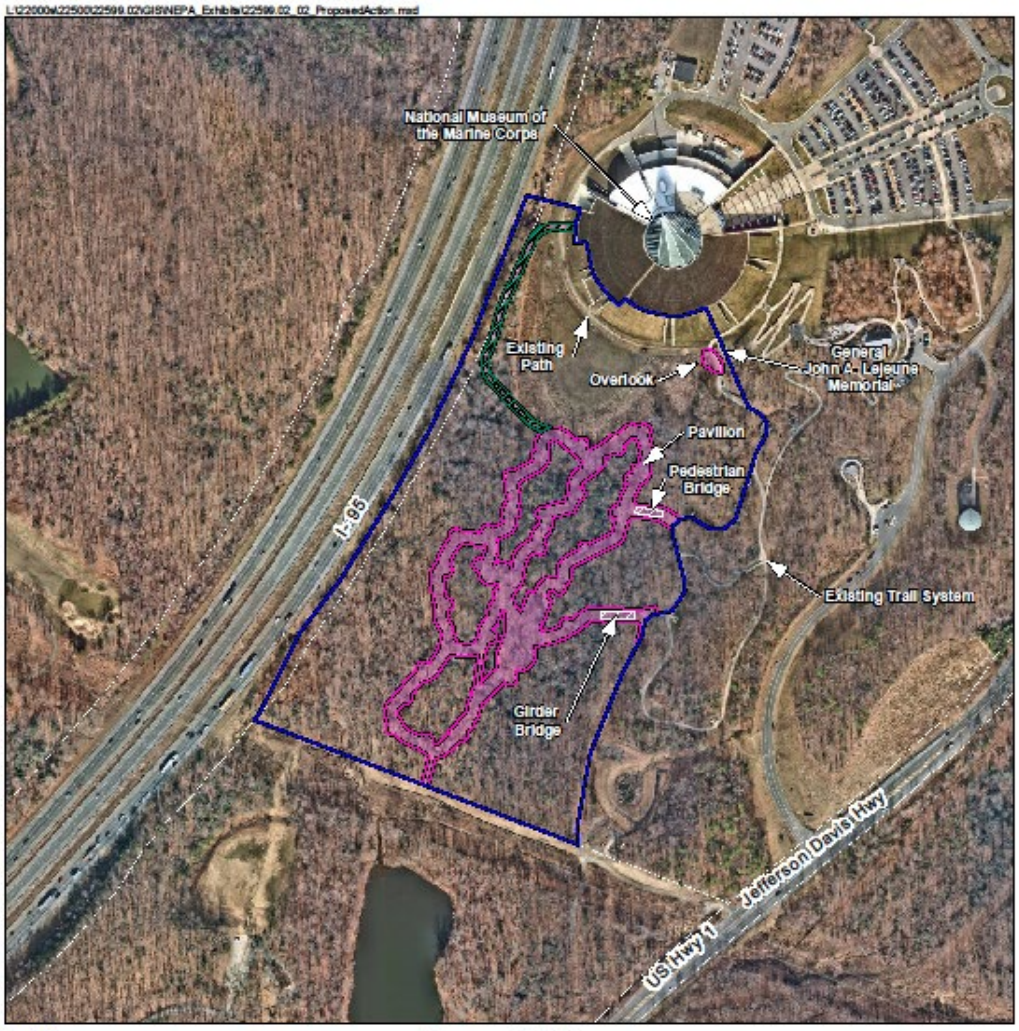


Exhibit 2. Existing nearby trail, which the Proposed Action would be modeled after

Exhibit 3. Example memorial wall

Exhibit 4. Example rally point

Exhibit 5. Rendering of proposed memorial pavilion

Exhibit 6. Example girder bridge

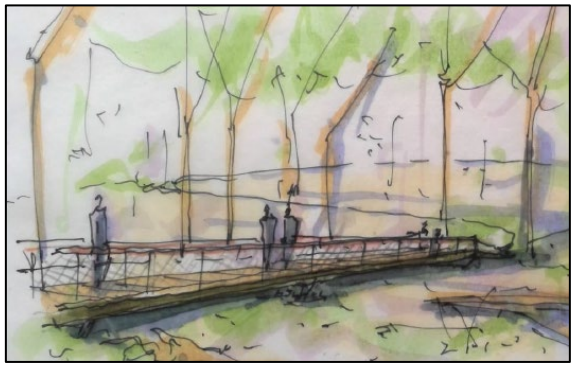


Exhibit 7. Rendering of proposed wooden bridge

3.3 Alternatives Eliminated from Detailed Study

3.3.1 Alternative 1

According to the Semper Fidelis Memorial Park Trail Extension Charrette Report (2020), this alternative would be built in two phases, includes construction of pedestrian bridges only, and does not include the 800-square-foot overlook at the starting point of the trail. The trail would pass alongside the General Lejeune Memorial and continue to the west of the museum. The proximity to the General Lejeune Memorial would make grading for construction of the trailhead difficult and would not achieve the desired level of privacy at the General Lejeune Memorial. The trail system would be shorter than the Proposed Action and it was not designed to avoid mature trees or with the consideration of existing site surface water drainage patterns. For these reasons Alternative 1 was dropped from further consideration.

3.3.2 Alternative 2

This alternative includes construction of the overlook at the starting point of the trail. The trail would pass close to the General Lejeune Memorial and continue further west than Alternative 1. Construction of both pedestrian and vehicle-accessible bridges is included, making the site more accessible for maintenance and emergency access. This alternative was ultimately dismissed because of the proximity to the General Lejeune Memorial.

3.3.3 Alternative 3

This alternative was designed to be constructed in a single phase, with the ability to add future expansions. The trail system is shorter than both previous alternatives and pulls the trail system further south to avoid the General Lejeune Memorial. This alternative was dismissed and replaced by the Proposed Action after examining site features related to constructability, including grading and drainage.

4.0 Affected Environment and Environmental Consequences

This chapter presents a description of the current baseline conditions in the project area and the potential environmental effects of the Proposed Action and the No Action Alternative.

4.1 Resources Excluded from Analysis in the EA

In compliance with NEPA, CEQ, and USMC guidelines for implementing NEPA, the discussion of existing conditions focuses on those resource categories potentially subject to effects. The level of detail used in describing a resource is commensurate with the anticipated level of potential environmental effect.

Table 2 summarizes resource categories that that would not be affected by the Proposed Action. These resources have not been evaluated in detail in this EA.

Table 2: Resource Categories Excluded from Further Analysis

Resource Category	Rationale for Exclusion
Airspace	Per a Joint Land Use Study (JLUS) conducted in 2014, the Proposed Action is not located in an area that would affect the base Air Installation Compatible Use Zone (AICUZ) or restricted air space. The Proposed Action has no potential to affect airspace or airspace management.
Geology	The project lies in the Patapsco formation, which is comprised of sand and clay from shallow aquatic deposits covering crystalline rock approximately 150 feet thick. However, depth to rock is greater than 6 feet (NRCS 2021). Therefore, the shallow grading and ground disturbances associated with the Proposed Action would have no effects on geology.
Prime or Unique Farmland	The *Farmland Protection Policy Act* (FPPA) (7 U.S.C. 4201 et seq, implementing regulations 7 CFR Part 658, of the *Agriculture and Food Act of 1981*, as amended) was enacted to minimize the effect of Federal programs on the unnecessary and irreversible conversion of farmland to nonagricultural uses. The project land

Resource Category	Rationale for Exclusion
	use is not agricultural; therefore, the Proposed Action is not subject to FPPA.
Floodplains	Executive Order (EO) 11988, *Floodplain Management*, requires federal activities to avoid effects to floodplains and to avoid direct and indirect support of floodplain development to the extent practicable. According to Federal Emergency Management Agency Flood Map panel number 51153C0311D, the project site is not in a floodplain.
Energy	EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, directs Federal agencies to identify the effects from energy usage in Federal facilities. Operation of the Proposed Action is anticipated to result in a negligible increased demand for energy.

4.2 Land Resources

This section describes land resources in the project area, including land use, topography, geology, and soils.

4.2.1 Existing Conditions

4.2.1.1 *Land Use*

The project area is in the eastern half of MCBQ, in a 6,000-acre area known as Mainside. It is undeveloped and characterized by vegetated open space. A JLUS between MCBQ and the surrounding counties show that project area around the Museum is designated as a community support area. The project area is forested, interspersed with scattered intermittent streams and riparian wetland habitat. The Museum, existing trails, and parking lot lie approximately 500 feet east of the proposed trail extension. The surrounding area contains family housing and community areas such as golf courses. The project area lies directly east of Interstate 95 (I-95), west of US Route 1, and south of Virginia Route 619 (Joplin Road).

4.2.1.2 *Topography*

Elevations in the project area range between 115 to 150 feet above mean sea level (recorded during a June to July 2020 wetland delineation of the project site), with slopes ranging from 0% to approximately 10% across the site. The US Geological Survey (USGS) topographic map (**Figure 2)** shows project area topography.

4.2.1.3 *Soils*

The Natural Resources Conservation Service (NRCS) maps six soil types in the project area (NRCS 2021). Information on the soils is provided in **Table 4-2**.

Table 3: NRCS Mapped Soils in the Project Area

Name (Map Symbol)	Drainage Class	Hydric
Lunt loam (34D)	Well-drained	No
Alluvial land, wet (Ae)	Moderately well-drained to poorly drained	Yes
Urban land-Udorthents Complex (54B)	Well-drained to excessively drained	No
Iuka fine sandy loam (Iu)	Moderately well-drained	No
Caroline fine sandy loam (CaC2)	Well-drained	No
Aura-Galestown-Sassafras Complex (AwD)	Somewhat excessively drained	No

Lunt loam is the most prevalent soil in the eastern portion of the site. Lunt loam, wet Alluvial land, and Iuka fine sandy loam dominate the central portion of the site. Alluvial land, Urban land-Udorthents complex, and Iuka fine sandy loam are the primary soils found in the western portion of the site. Smaller amounts of Caroline fine sandy loam, and Aura-Galestown-Sassafras complex are scattered throughout the project area.

The wet Alluvial land soil type is classified as hydric (meaning it is permanently or seasonally saturated by water resulting in anaerobic conditions and is indicative of wetlands). The depth to water table varies depending on slope position, but depth to

restrictive features (such as rock) is 80 or more inches for all soils (NRCS 2021).

4.2.2 Environmental Consequences

4.2.2.1 *Proposed Action*

Under the Proposed Action, there would be no long-term changes to topography. Temporary excavations would be filled upon completion of the project and re-contoured to pre-disturbance elevations. The trail would follow existing topography.

Long-term adverse effects on soils would occur due to removal and permanent loss of topsoil for site leveling and grading. For soils that would be disturbed during construction, these effects would be minimized by developing and implementing an E&SC plan prior to ground-disturbing activities, in compliance with the Virginia Stormwater Management Program regulations (9 Virginia Administrative Code [VAC] 25-840). The MCHF would implement erosion control Best Management Practices (BMPs) during and after construction to stabilize soils. Excavated soil would be managed in accordance with applicable local, State, and Federal regulations. If contaminated materials are discovered during construction activities, work would cease until the appropriate procedures and permits could be implemented.

An accidental release of contaminants such as pollutants from vehicles or equipment could occur. The effects of an accidental release on soils could be adverse. However, the likelihood of an accidental release would be low due to vehicle and equipment maintenance. Spill prevention and containment measures would be included in a Stormwater Pollution Prevention Plan (SWPPP) prepared in conjunction with coverage under the Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities. The SWPPP would also help lower the likelihood of an accidental release and minimize potential adverse effects should a spill occur.

4.2.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.3 Water Resources

The U.S. Army Corps of Engineers (USACE), Virginia Department of Environmental Quality (DEQ), and Virginia Marine Resources Commission (VMRC) regulate impacts to surface waters and wetlands and are responsible for issuance of permits for public projects in the Commonwealth of Virginia.

The USACE regulates activities involving the discharge of dredged or fill material into Waters of the US (WOTUS), pursuant to Section 404 of the *Clean Water Act (CWA) of 1977*, as amended (33 United States Code [USC] § 1344).

The DEQ administers the Virginia Water Protection (VWP) Permit Program for all impacts to jurisdictional surface waters of the state (9 VAC 25-210), which may include isolated wetlands not under federal jurisdiction. The DEQ grants CWA Section 401 certification that state water quality standards would not be violated by proposed work. Under Section 401 of the CWA, as amended (33 USC § 1341), a VWP General Permit (WP-3) is available for impacts less than 0.5 acre to DEQ jurisdictional waters.

The VMRC, in conjunction with local wetlands boards where established, regulates encroachments into state-owned submerged lands but may assert jurisdiction when the contributing drainage area of projects in non-tidal areas exceeds five square miles (4 VAC 20).

EO 11990, *Protection of Wetlands*, requires Federal agencies to minimize the loss and degradation of wetlands and preserve and enhance the natural values of wetlands when carrying out responsibilities involving federal land and/or facilities, or projects with federal assistance or federal permitting activities.

Virginia enacted the *Chesapeake Bay Preservation Act* (CBPA) in 1988 to protect and improve water quality in the Chesapeake Bay (9 VAC 25-830). It requires localities whose surface waters drain to the Chesapeake Bay (including Prince William County) to implement effective land use management practices. As part of the CBPA, Virginia established Resource Protection Areas (RPA) around water resources in the affected counties. RPAs consist of a 100-foot buffer on the landward side of perennial streams, tidal wetlands, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow, and tidal shores.

The *Safe Drinking Water Act (SDWA) of 1974* (42 USC § 300f et seq.) regulates public drinking water supplies. Amendments to the SDWA mandate that states assess, delineate, and map protection areas for their public drinking water sources and determine potential risks to those sources. Under Section 1424(e) of the SDWA, the U.S. Environmental Protection Agency (EPA) designates Sole Source Aquifers, which supply at least 50 percent of the drinking water for their service area and for which there are no reasonably available alternative drinking water sources.

Virginia Stormwater Management Program (VSMP) regulations (9 VAC 25-870), administered by the DEQ, require that construction and land development activities incorporate measures to protect aquatic resources from the effects of increased volume, frequency, and peak rate of stormwater runoff and from increased non-point source pollution carried by stormwater runoff. The VSMP also requires that land-disturbing activities of one acre or greater develop a SWPPP and acquire a permit (9 VAC 25-880) from the DEQ prior to construction.

4.3.1 Existing Conditions

Per the *Watershed Boundary Dataset* (DCR 2019a), the project area is in the Lower Potomac watershed (Hydrologic Unit Code 02070011). The streams and wetlands in the project area ultimately drain to the Atlantic Ocean.

A wetland delineation was performed in the project area in June and July 2020, in accordance with the *Corps of Engineers Wetlands Delineation Manual*, (1987 Manual) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (USACE 2010).

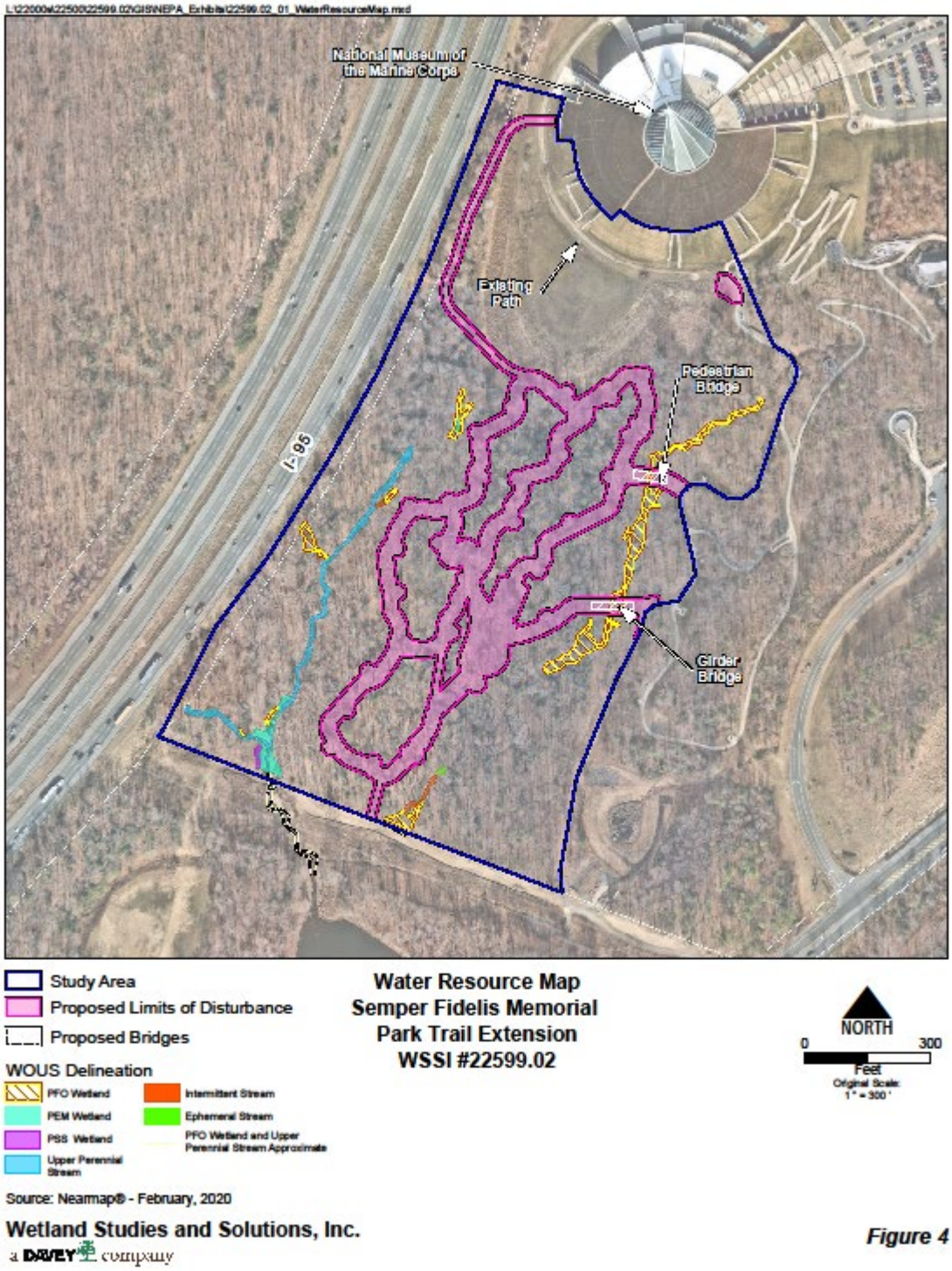
The delineation identified the following wetlands in the project area: 0.482 acres of palustrine forested (PFO), 0.018 acres of palustrine scrub/shrub, and 0.086 acres of palustrine emergent. Wetlands at the project site drain to an unnamed perennial tributary of Chopawamsic Creek via a narrow wetland swale on the eastern portion of the project site (the two bridges would cross this wetland swale) and an unnamed intermittent stream that runs along the western portion of the project site. An RPA associated with unnamed perennial tributaries of Chopawamsic Creek is also present on the study area.

The WOTUS have been verified by the USACE who issued an Approved Jurisdictional Determination for the project area in September 2020. See **Figure 4** for surface water resources (wetlands, streams, and RPA) in the project area.

On June 7, 2021, a preliminary State Surface Waters Determination (No. 21-001158) was issued for the isolated PFO wetlands on the east side of the project site. This determination is a requirement for the DEQ to take jurisdiction of the isolated wetlands and issue the VWP-3 permit for anticipated impacts.

MCBQ and the Museum are in the Potomac Aquifer, which is not a Sole Source Aquifer (EPA 2021). Deep (aquifer) groundwater is reached between 200 and 350 feet below ground surface (USGS 2021). A shallow water table exists in low-lying areas of the project site.

Figure 4: Surface Waters in the Project Area



4.3.2 Environmental Consequences

4.3.2.1 *Proposed Action*

The trail design was modified to minimize impacts to WOTUS. However, construction of the two bridges included in the Proposed Action would permanently impact 0.03 acre of PFO wetlands that are under DEQ jurisdiction. Because impacts to wetlands are less than 0.5 acre, a CWA Section 404 permit from the USACE would not be required for the project. As required under Section 401 of the CWA, as amended (33 USC § 1341), a VWP General Permit (WP-3) would be required for impacts to the 0.03 acres of PFO wetlands. The MCHF would obtain the VWP permit prior to the start of construction. Because the project would not affect subaqueous bottoms, a permit from VRMC would not be required.

Minor short-term effects to surface waters may occur due to transport of sediment in stormwater from soils disturbed during construction. Because land disturbance associated with construction would be greater than one acre, the MCHF would ensure that the project contractor obtains a VSMP General Permit for Stormwater Discharges from Construction Activities from the DEQ in compliance with the VPDES (9 VAC §§25-151). The construction contractor would also be required to prepare and implement a SWPPP as part of the VPDES permit. BMPs identified in the SWPPP would minimize potential impacts from construction stormwater runoff.

Shallow excavation activities could encounter groundwater in some locations across the project site; MCHF's contractor would be required to implement BMPs, such as avoidance and dewatering, as needed to minimize effects on groundwater, as necessary. Ground disturbing activities (excavation) associated with construction would be no deeper than six feet, which would not reach the aquifers used for drinking water nor affect any wells; therefore, there would be no effects to drinking water quality or groundwater supply. There would potentially be short-term negligible effects to shallow groundwater from excavation activities.

4.3.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.4 Coastal Resources

Pursuant to the *Coastal Zone Management Act of 1972* and federal consistency regulations (15 CFR Sec Part 930), federal actions that have reasonably foreseeable effects on any land or water use or natural resources in Virginia's Coastal Management Area (CMA) must be consistent with the enforceable policies of Virginia's Coastal Zone Management Program (CZMP). Federal projects that affect coastal resources of a state's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of that state's coastal management plan.

4.4.1 Existing Conditions

The project is in the Virginia CMA; therefore, the MCHF is required to determine the Proposed Action's consistency with the enforceable policies of the Virginia CZMP.

4.4.2 Environmental Consequences

4.4.2.1 *Proposed Action*

The MCHF prepared a Federal Consistency Determination (FCD), which is provided in **Appendix C.** The MCHF has determined that the project would be consistent with the enforceable policies of the Virginia CZMP and there would be no long-term adverse effects to coastal resources. The MCHF has requested DEQ's review of the FCD along with the Draft EA and will incorporate DEQ's comments into the Final EA and project plans as appropriate.

4.4.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.5 Biological Resources

Migratory bird species, as listed in 50 CFR Part 10, are protected under the *Migratory Bird Treaty Act* (MBTA) (16 USC §§ 703-712). In 2017, the Department of the Interior issued a Memorandum (M-3750) stating that the MBTA only prohibits the intentional take of protected bird species, incidental take (which results from an activity but is not the purpose of that activity) is not a violation of the MBTA. Pursuant to EO 13186, *Responsibilities of Federal Agencies to Migratory Birds*, the Department of Defense and United States Fish and Wildlife Service (USFWS) established a Memorandum of Understanding to promote the conservation of migratory birds.

Threatened, endangered, and special status species are federally protected under the *Endangered Species Act of 1973* (ESA), as amended (16 U.S.C. § 1531 et seq.). Under Section 7 of the ESA, the federal government must ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of a federally listed or protected species, or adversely modify its critical habitat. The USFWS, National Oceanic and Atmospheric Administration, and the National Marine Fisheries Service designate, regulate, and protect federally listed threatened, endangered, and special status species.

Threatened, endangered, and special status species are also regulated at the state level by the Virginia's endangered species regulations (Code of Virginia [COV] Sec 29.1-563 to 570), and the Virginia's endangered plant and insect species regulations (COV Sec 3.2-1000 to 3.2-1011). The Virginia Department of Wildlife Resources (DWR) has jurisdiction for game, fish and wildlife resources and habitats, and state-listed threatened, endangered, and special status animal species other than insects. The Virginia Department of Agriculture and Consumer Services (VDACS) is responsible for threatened, endangered, and special status species of plants and insects. The Department of Conservation and Recreation (DCR) Division of Natural Heritage maintains a statewide database for conservation planning and project review and under a Memorandum of Agreement represents VDACS in comments regarding potential effects to state-listed threatened and endangered plant and insect species.

According to Chief of Naval Operations Instruction 5090.1B, it is Navy and Marine Corps policy to cooperate with states to protect state-listed species if mission compatible.

The Bald Eagle (*Haliaeetus leucocephalus)* is protected under the *Bald and Golden Eagle Protection Act* (BGEPA) (16 USC Sec 668) and MBTA (16 USC Sec 703-712) as well as Virginia DWR regulations (4 VAC 15-30-10). Federal regulations pursuant to the BGEPA prohibit disturbance of eagles, which may include human activities or alteration of habitat surrounding a nest.

4.5.1 Existing Conditions

4.5.1.1 *Vegetation*

Vegetation types at the project site include landscaped areas maintained by mowing and shrub/tree maintenance near the Museum, wetland vegetation in the low-lying areas, and mixed conifer and deciduous forest including mature trees.

The primary species in the forested areas are American Holly *(Ilex opaca)*, eastern redcedar *(Juniperus virginiana)*, white oak *(Quercus alba)*, red oak *(Q. rubra)*, and red maple *(Acer rubrum)* in the overstory. The understory contains greenbrier *(Smilax* spp.), Virginia creeper *(Parthenocissus quinquefolia)*, and Japanese honeysuckle *(Lonicera japonica)*. Wetland vegetation typically includes sweetgum *(Liquidambar styraciflua)*, red maple, and tulip poplar *(Liriodendron tulipifera)*, with various sedges *(Carex* spp.) and Japanese stiltgrass *(Microstegium vimineum)* in the herbaceous layer.

4.5.1.2 *Wildlife & Habitat*

The deciduous forests, wetlands, and streams around the Museum provide habitat for a variety of species. Mammals likely include white-tailed deer (*Odocoileus virginianus*), eastern cottontail rabbit (*Sylvilagus floridanus*), and gray squirrel (*Sciurus carolinensis*) and other rodents. Other animals likely to be present include resident and migratory songbirds and raptors, various species of reptiles and amphibians, and insects.

4.5.1.3 *Migratory Birds*

MCBQ, including the MCHF project site, provides habitat for a variety of migratory bird species throughout the year. The Wood Thrush (*Hylocichla mustelina*), Red-Eyed Vireo (*Vireo olivaceus*), Indigo Bunting (*Passerina cyanea*), Prairie Warbler (*Setophaga discolor*), Yellow-Breasted Chat (*Icteria virens*) are among the common neotropical migratory species that may be found. The USMC is an active participant in the nationwide conservation program "Partners in Flight," which works to study and manage neotropical birds that breed in North American and migrate to Central and South America to overwinter.

4.5.1.4 *Threatened and Endangered Species*

USFWS' Information for Planning and Consultation system (IPaC), DWR Fish and Wildlife Information Service (VaFWIS) database, DCR Virginia Natural Heritage database, and the Center for Conservation Biology (CCB) VaEagles Nest Locator databases were reviewed to determine the potential for federally and/or state listed threatened, endangered, or candidate species in the project vicinity.

The USFWS IPaC database results included the federally threatened northern long-eared bat (NLEB) *(Myotis septentrionalis)*, federally endangered Indiana bat (*M. sodalis)*, and a federally threatened plant, the small whorled pogonia *(Isotria medeoloides)*. The VaFWIS database identified a confirmed presence of the state-endangered brook floater (*Alasmidonta varicosa)* within a 2-mile radius of the project site. The DCR Natural Heritage database did not identify any federal or state threatened or endangered species in the project area. However, it did indicate that the project site is an area designated as "Ecological Core C5." Ecological Core areas are unfragmented natural cover with at least 100 acres of interior that provide habitat for a range of species. The designations span from C1 to C5, with C5 being the least ecologically relevant.

Species of concern are summarized in **Table 4** and discussed below. Reports from the USFWS, DWR, DCR, and CCB databases are included as **Appendix D**.

Table 4: Potential Threatened, Endangered, and Protected Species within Two Miles of the Project Site

Common Name	Scientific Name	Status
Northern long-eared bat	*Myotis septentrionalis*	Federally Threatened
Indiana bat	*M. sodalis*	Federally Endangered
Small whorled pogonia	*Isotria medeoloides*	Federally Threatened
Brook floater	*Alasmidonta varicosa*	State Endangered
Bald Eagle	*Haliaeetus leucocephalus*	Federally Protected

Northern long-eared bat

The NLEB is a medium-sized bat that uses a wide variety of forested habitats for roosting and foraging; it sometimes utilizes adjacent and interspersed non-forested habitat such as emergent wetlands and edges of fields (VDGIF 2018c). In summer, NLEBs roost in caves or mines, underneath the bark of trees, or in cavities or crevices in live or dead trees, generally greater than three inches diameter at breast height. They hibernate from mid-fall through spring in underground caves, mines, and cave-like structures (hibernacula) (USFWS 2016). NLEB migrate between their winter hibernacula and summer habitat, typically between mid-March and mid-May, and mid-August and mid-October (USFWS 2015).

According to the DWR NLEB Winter Habitat and Roost Tree map, there are no hibernacula or maternity roost trees within two miles of the project site. Summer populations of the NLEB could be supported in forested habitats in and surrounding the project area.

Indiana bat

The Indiana bat is a medium sized bat that hibernates during the winter in caves and abandoned mines. There are no known caves or mines within or near the project site. Neither the DCR nor DWR databases identified confirmed records of this species within a 2-mile radius of the action area. Summer and winter habitat and range occur in the western portion of Virginia (DWR 2020).

Small whorled pogonia

The federally threatened and state-endangered small whorled pogonia (SWP) has a broad geographic range; however, it is sparsely dispersed, and most extant sites are represented by few individuals. Wetland Studies and Solutions, Inc. (WSSI) biologists conducted a habitat evaluation and search for this species in the project study area on July 17, 2020. Medium-quality habitat for this species is present in the study area, but a thorough search detected no individuals. Given the intensity with which the highest quality areas were searched and the systematic nature of the search for this species (i.e., investigating all medium-quality and some low-quality habitat areas as well), it is WSSI's opinion, based on the negative search results, that there is a low probability that the SWP occurs in the study area.

Brook Floater

The state-endangered brook floater inhabits streams of varying sizes with gravel and cobble substrates and low to moderate flow. The species can also be found in streams with higher flow along banks and behind flow-obstructing boulders. Based on a review of the project site habitat by WSSI biologists during a site visit in July 2020, there is no suitable habitat for the brook floater at the project site.

Bald Eagle

Bald Eagles typically nest in large trees along the shores of rivers and other water bodies or near the edges of large, forested areas adjacent to marshes. They occasionally nest in other open areas or in logged-over areas where scattered seed trees remain. Typical foraging habitat includes coasts, rivers, and large lakes. According to the CCB Virginia Eagle Nest Locator, the closest nest to the project site is approximately 1.5 miles south. No Bald Eagle nests were observed by WSSI biologists during a site visit in July 2020.

4.5.1.5 *Environmental Consequences*

4.5.1.6 *Proposed Action*

Temporary adverse effects to wildlife would include disturbance from construction noise and increased human presence during construction activities. Long-term indirect adverse effects would occur from additional noise and human presence in the project area and removal of habitat including up to six acres of mature trees in the footprint of the trail, rally points, and memorials. Final trail design would avoid removal of mature and specimen trees to the extent practicable, and MCHF anticipates the total acres of tree removal to be closer to 3 to 4 acres.

An acoustic bat survey was performed in the project area in July 2020. The survey, conducted at four locations, detected the presence of four bat species, but no Indiana bats or NLEBs were detected (Nye et. al 2020).

To minimize potential effects to bats, the MCHF would implement a voluntary measure of conducting tree removal outside of the pup season (1 June – 31 July) based on the findings of the January 5, 2016 Programmatic Biological Opinion for Final 4(d) Rule. This time of year restriction on tree removal would also minimize effects to migratory birds by avoiding disturbance to their nests during much of the peak breeding season (1 May and 10 September). Based on the time of year restriction, the MCHF has determined that the Proposed Action may affect, but is not likely to adversely affect the NLEB and Indiana bat.

Because there is no habitat for the brook floater, the MCHF determined there would be no effect to this species.

Based on the negative findings of the July 2020 small whorled pogonia survey, the MCHF has determined that the Proposed Action would have no effect to this species.

Because there are no known Bald Eagle nesting sites in the project area, no effects on Bald Eagles are anticipated.

On May 5, 2021, the MCHF initiated coordination with the USFWS by submitting the IPaC review package to the USFWS Virginia

Field Office via email, including a project review request letter with a determination of effects to federally listed threatened and endangered species (**Appendix C**). The USFWS responded on July 8, 2021 stating they had no comments and no further action is required (**Appendix C**).

4.5.1.7 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.6 Cultural Resources

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources are generally divided into archaeological resources (below ground prehistoric and historic), and architectural resources (above ground).

Section 106 of the *National Historic Preservation Act of 1966*, as amended, requires all federal agencies to consider the effects on historic properties of any project for which they are providing funding, a license, or a permit. Under Section 106, Federal agencies are responsible for identifying historic properties within the Area of Potential Effects for an undertaking, assessing the effects of the undertaking on those historic properties, if present, and considering ways to avoid, minimize, and mitigate any adverse effects.

4.6.1 Existing Conditions

The Virginia Department of Historic Resources' (DHR) Virginia Cultural Resources Information System (VCRIS) database was queried for records of historic resources within one mile of the project area on November 2, 2020.

The affected environment for archaeological resources consists of the areas where ground disturbance would occur, and for above ground resources is the area within a 1-mile radius of the project site.

According to VCRIS, there are two recorded historic resources in the project area. Colonial Road (King's Highway, DHR 076-5195) is discussed as an architectural resource in the *Revolutionary War Route and Transportation Survey circa 1781-1782*. Colonial Road is approximately 1,200 feet long and begins on the west side of US Route 1, half a mile south of Joplin Road. It runs from the southern end of the project site north towards the Museum. It is estimated that the road was constructed in 1750. This site has not been evaluated for listing by the DHR.

The second historic resource is a Native American temporary campsite (DHR 44PW1046) dating from 15,000 B.C.E – 1606 C.E. This site was surveyed prior to the construction of the Museum during a Phase I archaeological investigation by Parsons Engineering Science in 1998. Artifacts found included eight quartz flakes, one quartz core, and one quartzite fire cracked rock. This site was determined to be ineligible for listing in the Nation Register of Historic Places (NRHP) by the DHR. A second Phase I assessment was conducted by The Louis Berger Group, Inc. in 2010, which investigated the possibility of civil war era encampments throughout the project site. No significant findings came from the study.

4.6.2 Environmental Consequences

4.6.2.1 *Proposed Action*

The USMC Natural Resources and Environmental Affairs branch conducted an investigation of the Colonial Road resource (DHR 076-5195) on July 1, 2021 to determine site eligibility for listing in the NRHP. Results from the survey were negative, as the site no longer retains historic integrity. USMC is recommending that the site is not eligible for listing in the NRHP. Per the investigation results, USMC has determined the Proposed Action would have no adverse effect on DHR listed historic properties. The Native American temporary campsite is not eligible for the NRHP and therefore is not evaluated further under Section 106 of the NHPA.

The USMC initiated Section 106 consultation with DHR in a letter dated July 8, 2021. In the letter, USMC requested concurrence

with its negative findings of the Colonial Road and their determination of no adverse effects. DHR concurred with the USMC determination via a letter dated July 27, 2021 (**Appendix D**).

4.6.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.7 Noise

Noise is often defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, diminishes the quality of the environment, or is otherwise annoying.

A-weighting of decibels (dBA) provides a good approximation of the response of the average human ear and correlates well with the average person's judgment of the relative loudness of a noise event. A sound level of 0 dBA is the approximate threshold of human hearing. By contrast, normal speech has a sound level of approximately 60 dBA. Sound levels between 110 and 130 dBA are felt as pain.

Noise is regulated under the *Noise Control Act* of 1972, as amended by the *Quiet Communities Act* of 1978, which sets forth the policy of the U.S. to promote an environment for all citizens that is free from noise that jeopardizes human health and welfare.

U.S. Occupational Safety and Health Administration (OSHA) standards (29 CFR 1910.95) provide noise exposure limits for employees in noisy environments or workplaces. According to OSHA, an employee should not be subjected to continuous noise exceeding 90 dBA for durations lasting more than eight hours per day, with a maximum limit of 115 dBA for durations of 15 minutes or less.

4.7.1 Existing Conditions

Existing noise in the project area are primarily from aircraft operations at the nearby Marine Corps Air Facility (Turner Field) and firing ranges located west of I-95. Live and simulated fire exercises are generally conducted at ranges on the western side of MCBQ and can be heard at the project site. Other noise is from I-95 and US Route 1 traffic (MCBQ 2014). Per the JLUS (2014), the project area falls within an AICUZ compatible area.

4.7.2 Environmental Consequences

4.7.2.1 *Proposed Action*

Implementation of the Proposed Action would generate short-term, temporary noise from construction operations. Construction that would generate disruptive noise levels would not be conducted during times of high visitor volumes or special events at the Museum. This would allow for a desired level of quiet for thought and reflection on the existing trail and at the Museum.

No permanent increases in noise levels from use of the trail are anticipated; noise would remain similar to existing levels. Vehicles accessing components of the trail for maintenance would be limited to times when there are few visitors or visitors are not present (e.g., temporary trail closure) to minimize disruptions to the quiet environment.

4.7.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.8 Visual Resources

Visual resources refer to the landscape character and human preferences and values regarding what is seen within a geographically defined viewshed.

4.8.1 Existing Conditions

The viewshed is characterized by the existing Museum, trail, memorials, and mature forest.

4.8.2 Environmental Consequences

4.8.2.1 *Proposed Action*

The proposed trail extension would be integrated into the existing trail system and museum complex using site topography, with forest preservation being a priority. The memorial pavilion, walls, and path would be constructed amongst mature trees, which would buffer views from outside of the project area and minimize effects on the viewshed. The overlook would be integrated into the museum complex. The trail and all facilities (walls, benches, memorials, etc.) would be designed to match the existing trail and visual character of nearby facilities (e.g., similar type of rock, concrete path, colors, textures, heights).

Although the proposed girder bridge would not match the visual character of the path, existing facilities, or the pedestrian bridge, as noted in the 2020 Charette Report for the proposed project, "*The Medium Girder Bridge will hold a special place in visiting Marines' hearts because it will be a repurposed structure designed specifically for deployment by the Marine Corps.*" No long-term adverse effects on visual resources are anticipated. There would be minor temporary adverse effects to the viewshed for those visiting the Museum during trail construction.

4.8.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.9 Air Quality and Greenhouse Gases

In compliance with the 1970 *Clean Air Act* (CAA) (42 U.S.C. §7401 et seq., as amended), the EPA has produced national ambient air quality standards (NAAQS) and regulations for six criteria pollutants: carbon monoxide (CO), sulfur dioxide, particulate

matter at two levels-particles with a diameter less than or equal to a nominal 10 micrometers and less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$), ozone, nitrogen oxides (NO_x), and lead. Areas that do not meet NAAQS are called non-attainment areas.

The General Conformity Rule (CAA Section 176(c)(4)) ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet the NAAQS. *De minimis* thresholds are pollutant-specific and specify the maximum allowable emissions from a project before a formal conformity determination must be prepared. Federal agencies do not need to prepare conformity determinations for actions that do not exceed these *de minimis* thresholds. The pollutant *de minimis* criteria for the General Conformity Rule are 50 tons per year (tpy) for volatile organic compounds, 100 tpy for NO_x, 100 tpy for $PM_{2.5}$, and 100,000 tpy for CO.

Greenhouse gases (GHGs) include carbon dioxide (CO_2), methane, NO_2, ozone, and several hydro- and chlorofluorocarbons. For simplification, total GHG emissions are often expressed as a CO_2 equivalent (CO_{2e}). As GHGs are relatively stable in the atmosphere and are essentially uniformly mixed throughout the troposphere and stratosphere, the climatic impact of GHG emissions does not depend upon the source location. Therefore, regional GHG effects are likely a function of global emissions.

On June 21, 2019, CEQ published draft guidance titled "*Draft National Environmental Policy Act [NEPA] Guidance on Consideration of Greenhouse Gas [GHG] Emissions*," in the Federal Register. This draft guidance is intended to replace CEQ's August 2016 ''*Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*'' (81 FR 51866, Aug. 5, 2016), which was withdrawn on April 5, 2017, pursuant to EO 13783, *Promoting Energy Independence and Economic Growth*. USMC continues to follow the 2016 CEQ guidance on GHG emissions and climate change in NEPA review until directed otherwise by amendments to the guidance or regulation.

4.9.1 Existing Conditions

Per the EPA Greenbook Current Nonattainment Counties (EPA 2021) MCBQ is in a moderate ozone non-attainment area in the Ozone Transport Region, and in a $PM_{2.5}$ non-attainment area. The area is in an attainment for all other criteria pollutants included in the NAAQS.

Existing sources of air pollutants in the project area are minimal. High traffic roadways such as I-95 and US Route 1 are close to the project area; vehicles traveling on these roads are the primary contributors of air emissions in the project area. Vehicles associated with people visiting the Museum contribute marginally to emissions. The Museum has stationary sources of air emissions that include power generators, heating and air conditioners, and other utilities, which generate marginal air emissions.

4.9.2 Environmental Consequences

4.9.2.1 *Proposed Action*

Project construction vehicles and equipment would emit minor amounts of criteria pollutants (principally NO_x, CO, CO_2, and PM) during the construction period. The operation of diesel-powered construction equipment would be intermittent during construction and would produce minimal pollutant emissions in a localized area. Therefore, no quantitative assessment of emissions is warranted, and a General Conformity Analysis is not required. Emissions would be minimized to the extent practicable by implementing BMPs such as restrictions on excessive idling and adherence to equipment maintenance programs for the operation of the fuel burning equipment and vehicles. As a result, total emissions including GHG, from construction vehicles and equipment would result in negligible temporary effects to air quality. Once constructed, maintenance and emergency vehicles would periodically access the trail, and there would be an increase in visitor vehicles associated with expansion of Museum facilities. However, the amounts of air pollutants associated with emissions would be negligible.

4.9.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.10 Infrastructure, Utilities, & Transportation

Infrastructure refers to the system of public works such as stormwater management and transportation systems that provide the underlying framework for a community.

4.10.1 Existing Conditions

There are currently no utilities at the project site. The nearest utilities are associated with the Museum's campus and existing trail. The existing trail and outdoor areas of the Museum are designed to minimize and adequately convey stormwater runoff. There is no stormwater drainage infrastructure or stormwater management system (ditches, swales, pipes, outfalls, etc.) at the project site; stormwater flows naturally into surface waters.

The project area lies between US Route 1 to the east, and I-95 to the west. Access to the project site is provided at two locations off US Route 1. Traffic associated with the Museum contributes negligibly to congestion on these roads. However, with large events, Museum traffic can temporarily (typically no more than 30 minutes) contribute to minor congestion on local roads leading to/from the Museum.

4.10.2 Environmental Consequences

4.10.2.1 *Proposed Action*

Electricity, water, and communication lines would be installed underground along the trail to operate call boxes, security cameras, water hoses, and electrical outlets in the pavilion. The utilities would be connected to the existing utilities on the west side of the Museum's campus. It is unlikely that the Proposed Action would noticeably increase vehicular traffic on local or major roads. The MCHF would design the trail to minimize and convey stormwater runoff in compliance with State regulations. There would be no adverse effects to existing

utilities or transportation, and no long-term effects to infrastructure.

4.10.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.11 Health and Safety

The health and safety analyses for this EA considers occupational hazards, risks to the public, military personnel, contractors, and civilians from potentially hazardous activities during construction.

All personnel involved with operational programs at MCBQ follow appropriate safety protocols, including OSHA regulations and training requirements. The handling, processing, storage, and disposal of hazardous materials or hazardous wastes would be accomplished in accordance with all applicable Federal and state requirements.

4.11.1 Existing Conditions

Due to the proximity of MCBQ and the firearms used in training exercises, the USMC conducted a Range Vulnerability Assessment (2011) to identify whether there is a release or substantial threat of a release of munitions constituents from operational range or range complex areas to off-range areas. After extensive surface and ground water testing and analysis, the USMC determined that there was no immediate environmental concern of munitions constituent migration to off-range areas.

4.11.2 Environmental Consequences

4.11.2.1 *Proposed Action*

Proposed construction activities could present safety risks to construction personnel, MCHF personnel/contractors, and the public near the project area. Primary risks to construction-related personnel would be from transporting and operating construction equipment and the handling and use of hazardous materials.

The staging and work areas could also present safety risks to personnel/contractors working at the site, and to members of the public who are in the vicinity (visiting the Museum) while work is ongoing. To minimize risks to safety and human health, all construction activities would be performed by qualified personnel who are trained to safely operate the appropriate equipment. The MCHF and its contractors would conduct all project activities in accordance with federal OSHA regulations and Virginia OSHA regulations, with oversight by the MCBQ Safety Office. Signage and safety fencing, as appropriate, would be placed to alert the public of project activities and keep the public out of active construction areas.

The trail would be designed and constructed to comply with *American with Disabilities Act* requirements, with safety measures such as railings at the overlook and on bridges, and with an emergency call system at points along the trail.

With implementation of the measures described above, there would be negligible adverse effects on health and safety from the Proposed Action in the short-term, and no effects over the long-term.

4.11.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.12 Hazardous Materials and Solid Waste

Due to the volume of waste produced by MCBQ, there is a hazardous waste management program at the base. This program covers hazardous waste generated during both normal daily activities and special activities such as construction or renovation. The hazardous waste management program includes managing, tracking, and enforcing environmental compliance with all local, state, and federal environmental laws in accordance with MCO 5090.2, Chapter 9, and MCBQ's Hazardous Waste Management Plan, which establishes procedures to achieve and maintain regulatory compliance with the *Resource Conservation and Recovery Act* (RCRA), Title 40 CFR 239-282, Protection of

Environment; Title 49 CFR, Transportation; and 9 VAC 20-60-10 et seq.

4.12.1 Existing Conditions

Per the EPA's Envirofacts (EPA 2021) and DEQ's Virginia Environmental Geographic Information System (DEQ 2021) databases, the proposed site has never been used as a hazardous waste storage location and is not a generator. The project area is not a *Comprehensive Environmental Response Compensation and Recovery Act* site or RCRA site and is not on the National Priority List. The existing trail system generates a small amount of pedestrian waste, but this material is generally not hazardous. The Museum complex has a recycling program, and solid wastes are disposed of at the Prince William County Landfill. The volume of recycled and solid waste is reported yearly to the MCBQ Solid Waste Program Manager.

4.12.2 Environmental Consequences

4.12.2.1 *Proposed Action*

Construction activities would result in the use of hazardous materials and/or the generation of hazardous wastes. Quantities of hazardous wastes used and generated would be minor. Hazardous materials used for construction activities would include concrete and liquids for vehicles such as oil, hydraulic fluid, and windshield washer fluid. Quantities of construction-related hazardous materials generated would be small, and they would be disposed of in accordance with applicable federal, state, and local regulations. No long-term effects are anticipated and no release of hazardous materials or wastes to the environment is reasonably foreseeable.

Maintenance activities and vehicles would involve use of minor amounts of hazardous materials and generation of hazardous wastes. Trash and recycling receptacles would be placed along the trail to encourage the public to properly dispose of waste. The MCHF would implement BMPs such as proper storage, handling, and disposal methods and other requirements in accordance with the MCBQ's Hazardous Waste Management Plan. There would be a

negligible change in use or generation of hazardous materials or wastes from current conditions.

4.12.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

4.13 Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations*, directs agencies to avoid disproportionate placement of adverse effects from federal actions on these environmental justice (EJ) groups. EO 13045, *Protection of Children from Environmental Health and Safety Risk*, requires agencies to identify and assess environmental health and safety risks that might disproportionately affect children.

4.13.1 Existing Conditions

The EPA Environmental Justice Mapper (EJSCREEN) reports that the population in the vicinity of the Proposed Action (1-mile radius) is 53% minority and 27% low-income, while the population in Prince William County is 55% minority and 19% low-income. Because the minority population is greater than 50%, and because the population of low-income persons is greater than the County average, the population within a 1-mile radius of the project site is considered to be a minority and low-income EJ community. The EJSCREEN report is included as ***Appendix G***.

4.13.2 Environmental Consequences

4.13.2.1 *Proposed Action*

The proposed trail would be available for use by all members of the public and would benefit the local community by providing additional recreational opportunities. The project would not have disproportionately high or adverse human health, safety, or environmental effects to minority or low-income residents in the project area.

4.13.2.2 *No Action Alternative*

There are no anticipated environmental consequences due to the No Action Alternative.

5.0 Conclusion

Table 5 provides a summary of the resources evaluated and potential effects from the Proposed Action and No Action Alternative.

Table 5: Effects Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
Land Resources (Land Use, Topography, and Soils)	Short-term adverse effects on soils would occur due to removal and permanent loss of topsoil for site leveling and grading. Minor long-term beneficial effects due to implementation of stormwater management and Erosion and Sediment Control (E&SC) plans.	No effects.
Water Resources	Short- and long-term minor adverse effects due to construction of bridges over wetlands. Minor short-term effects to surface waters may occur due to transport of sediment in stormwater from soils disturbed during construction	No effects.
Coastal Resources	No effects.	No effects.
Biological Resources (Vegetation, Wildlife & Habitat, Threatened and Endangered Species)	Temporary adverse effects to wildlife would include disturbance from construction noise and increased human presence during construction activities. Long-term indirect adverse effects would occur from additional noise and human presence in the project area and removal of habitat including up to six acres of mature trees. USFWS concurred with the MCHF's determination of effects to threatened and endangered species.	No effects.

Technical Resource Area	Proposed Action	No Action Alternative
Cultural Resources (Archaeology and Architectural Properties)	Two resources in the project area, both archaeological: neither is eligible for the National Register of Historic Places (NRHP). USMC has determined the project would have no adverse effects on historic properties and has requested concurrence from DHR. Their concurrence was received 27 July 2021.	No effects.
Noise	Short-term minor adverse effects due to activities such as construction. No long-term adverse effects.	No effects.
Visual Resources	Short-term minor adverse effects due to construction. No long-term adverse effects.	No effects.
Air Quality and Greenhouse Gases	Negligible temporary effects to air quality due to construction vehicles and equipment. Negligible permanent effects due to an increase in visitor vehicles associated with expansion of Museum facilities.	No effects.
Infrastructure, Utilities, and Transportation	Short-term minor adverse effects due to restricted access and increased traffic during construction. Long-term beneficial effects to site access for the general public and emergency vehicles after construction. No adverse effects to existing utilities or transportation, and no long-term adverse effects to infrastructure.	No effects.
Health and Safety	Negligible short-term adverse effects on health and safety due to construction risks. No long-term adverse effects.	No effects.
Hazardous Materials and Solid Wastes	Short-term adverse effects due to waste produced during construction. No long-term adverse effects are anticipated.	No effects.

Technical Resource Area	Proposed Action	No Action Alternative
Environmental Justice	No disproportionally high and/or adverse effects to low-income or minority populations. Minor beneficial effects due to increased recreational opportunities.	No effects.

There would be no significant adverse effects, either individually or cumulatively, to the environment or quality of life from the Proposed Action. Therefore, MCBQ and the MCHF have determined that preparation of an Environmental Impact Statement is not necessary and that a Finding of No Significant Impact is appropriate.

The No Action Alternative was not found to satisfy the purpose of and need for the Proposed Action. As such, the USMC and the MCHF recommend approval of the Proposed Action.

6.0 Document Preparers

Table 6: Preparers from Wetland Studies and Solutions, Inc

Name	Title	Highest Degree	Years of Relevant Experience
Susan Liszeski	Senior Environmental Scientist	M.S., Wildlife Management, Louisiana State University	20+
Nick Royston	Environmental Scientist	B.S., Environmental Biology, Brigham Young University	4
Zaneta Hough	Associate Environmental Scientist	M.S. Ecology, Penn State University	14

Table 7: Preparers from Marine Corps Base Quantico

Name	Title	Agency	Years of Relevant Experience
Heather McDuff	NEPA Coordinator	Marine Corps Base Quantico, Natural Resources Environmental Affairs Branch, NEPA Coordination Section	20+
Sharon Hughes	Project Manager	Marine Corps Heritage Foundation	10

7.0 List of Agencies and Persons Contacted

Table 8: Agencies Contacted

Name	Agency	Email
Tucker Smith	U.S. Corps of Engineers	tucker.smith@usace.army.mil
Troy Andersen	U.S. Fish and Wildlife Service	troy_andersen@fws.gov
Bettina Rayfield	Virginia Department of Environmental Quality	Bettina.Rayfield@deq.virginia.gov
Rene Hypes	Virginia Department of Conservation and Recreation	Rene.hypes@dcr.virginia.gov
Ray Fernald	Virginia Department of Wildlife Resources	Ray.Fernald@dgif.virginia.gov
Roger Kirchen	Virginia Department of Historic Resources	roger.kirchen@dhr.virginia.gov

8.0 References

Bald and Golden Protection Eagle Act. 1940. 16 U.S.C. §668-668d, 54 Stat. 250.

Chesapeake Bay Preservation Act. 1988. Code of Virginia, Title 10.1-Conservation, Chapter 21.

Clean Air Act. 1970. 42 U.S.C. §7401 et seq., as amended in 1977 and 1990.

Clean Water Act. 1972. 33 U.S.C. §1251 et seq.

Coastal Zone Management Act. 1972. 16 U.S.C. §1451, et seq., as amended.

Center for Conservation Biology. 2021. Eagle Nest Locator. http://www.ccbbirds.org/what-we-do/research/species-of-concern/virginia-eagles/nest-locator/. Accessed 2 November 2020.

Code of Virginia. 2014. Erosion and Sediment Control Law. §62.1-44.15. http://www.deq.virginia.gov/Portals/0/DEQ/Water/StormwaterManagement/Erosion Sediment Control Handbook/ESC Handbook Law Regulations.pdf. Accessed on 4 November 2020.

Code of Virginia. 1979. *Virginia Endangered Plant and Insect Species Act*. §3.2-1000 through 1011, and 29.1-563 through 570.

Council on Environmental Quality. 2016. *Guidance on Considering Climate Change in NEPA Reviews and Conducting Programmatic NEPA Reviews*. https://www.fedcenter.gov/Announcements/index.cfm?id=27005&pge prg id=27395. Accessed on 4 November 2020.

Council on Environmental Quality. 1970. *Regulations for Implementing the Procedural Provisions of NEPA*. 40 CFR 1500-1508. https://energy.gov/nepa/downloads/40-cfr-1500-1508-ceq-regulations-implementing-procedural-provisions-nepa. Accessed on 4 November 2020.

Department of Conservation and Recreation. 2021. Virginia Natural Heritage Database. https://www.dcr.virginia.gov/natural-heritage. Accessed 8 February 2021.

Endangered Species Act. 1973. 7 U.S.C. §136, 16 U.S.C. §1531 et seq.

E.O. 12898. 1994. *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations.*

E.O. 13045. 1997. *Protection of Children from Environmental Health and Safety Risk.*

E.O. 13186. 2001. *Responsibilities of Federal Agencies to Migratory Birds.*

E.O. 13514. 2009. *Leadership in Environmental, Energy, and Economic Performance.*

Executive Order (E.O.) 11988. 1977. *Floodplain Management.*

Farmland Protection Policy Act. 1984. 7 USC §4201 et seq.

Identification and Listing of Hazardous Waste. 2011. 40 CFR Part 261.

Initiation of the Section 106 Process. 2000. 36 CFR 800.3.

Intergovernmental Panel on Climate Change. 2007. www.ipcc.ch. Accessed 20 January 2021.

Marine Corps Base Quantico, Virginia. 2014. *Environmental Assessment for the National Museum of the Marine Corps Phase II Expansion.*

Marine Corps Base Quantico, Virginia. 2011. *Range Environmental Vulnerability Assessment.*

Marine Corps Base Quantico, Virginia. 2014. *Joint Land Use Study.*

Marine Corps Base Quantico, Virginia 2015-2019. 2016. *Integrated Natural Resources Management Plan.* 556 pp.

Migratory Bird Treaty Act of 1918, as amended. 1918. 16 USC 703-712; Ch. 128; 40 Stat. 755.

National Environmental Policy Act of 1969, as amended. 1969. *Council on Environmental Quality (CEQ)* regulations (40 CFR §§ 1500-1508).

National Historic Preservation Act. 1966. 16 USC 470 et seq.

Natural Resource Conservation Service. 2021. State Soil Data Access, *Hydric Soils Rating by Map Unit.* https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1389479.html. Accessed on 5 March 2021

Natural Resource Conservation Service. 2021. State Soil Data Access, Prime and other Important Farmlands.

https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1338623.html. Accessed on 5 March 2021.

Natural Resources Conservation Service. 2021. United States Department of Agriculture. Official Soil Series Descriptions. http://soils.usda.gov/technical/classification/osd/index.html. Accessed 2 February 2021.

Nye, C., T. Nocera, and M. St. Germain. 2020. *2020 Bat Survey for the National Museum of the Marine Corps, Prince William County Virginia*. 3 pp.

Office of the President. 1977. *Executive Order 11988. Floodplain Management.*

Office of the President. 1977. *Executive Order 11990. Protection of Wetlands.*

Partners in Flight. 2021. partnersinflight.org. Accessed 20 January 2021.

Protection of Historic Properties. 2012. 36 CFR 800.

Resource Conservation and Recovery Act. 1976. 42 USC §6901 et seq.

Safe Drinking Water Act. 1974. 42 USC §300f *et seq.*

US Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2)*. 180 pp.

US Army Corps of Engineers. 1987. *Corps of Engineers Wetlands Delineation Manual*. 143 pp.

US Environmental Protection Agency. 2021. EJSCREEN: Environmental Justice Screening and Mapping Tool. https://www.epa.gov/ejscreen. Accessed 11 November 2020.

US Environmental Protection Agency. 2021. EPA Enviromapper for Envirofacts. https://enviro.epa.gov/enviro/em4ef.home. Accessed 2 March 2021.

US Environmental Protection Agency. 2021. The Green Book Nonattainment Areas for Criteria Pollutants: Criteria Pollutant Nonattainment Summary Report. https://www3.epa.gov/airquality/greenbook/ancl3.html. Accessed 5 January 2021.

US Environmental Protection Agency. 2021. Sole Source Aquifers. epa.maps.arcgis.com/apps/webappviewer

US Environmental Protection Agency. 2009. Mandatory Reporting of Greenhouse Gases Rule. 40 C.F.R. Part 98.

US Environmental Protection Agency. 2008. *National Ambient Air Quality Standards.* https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed on 5 January 2021.

US Fish and Wildlife Service. 2021. Information for Planning and Consultation. https://ecos.fws.gov. Accessed on 5 February 2021.

US Fish and Wildlife Service. 2013. *List of Migratory Birds.* 50 CFR Part 10.13. As of December 2, 2013. https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php. Accessed on 3 November 2020.

US Fish and Wildlife Service. 2021. *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions.* 109 pp.

US Geological Survey. 2021. National Hydrography Dataset. https://nhd.usgs.gov/. Accessed on 3 November 2020.

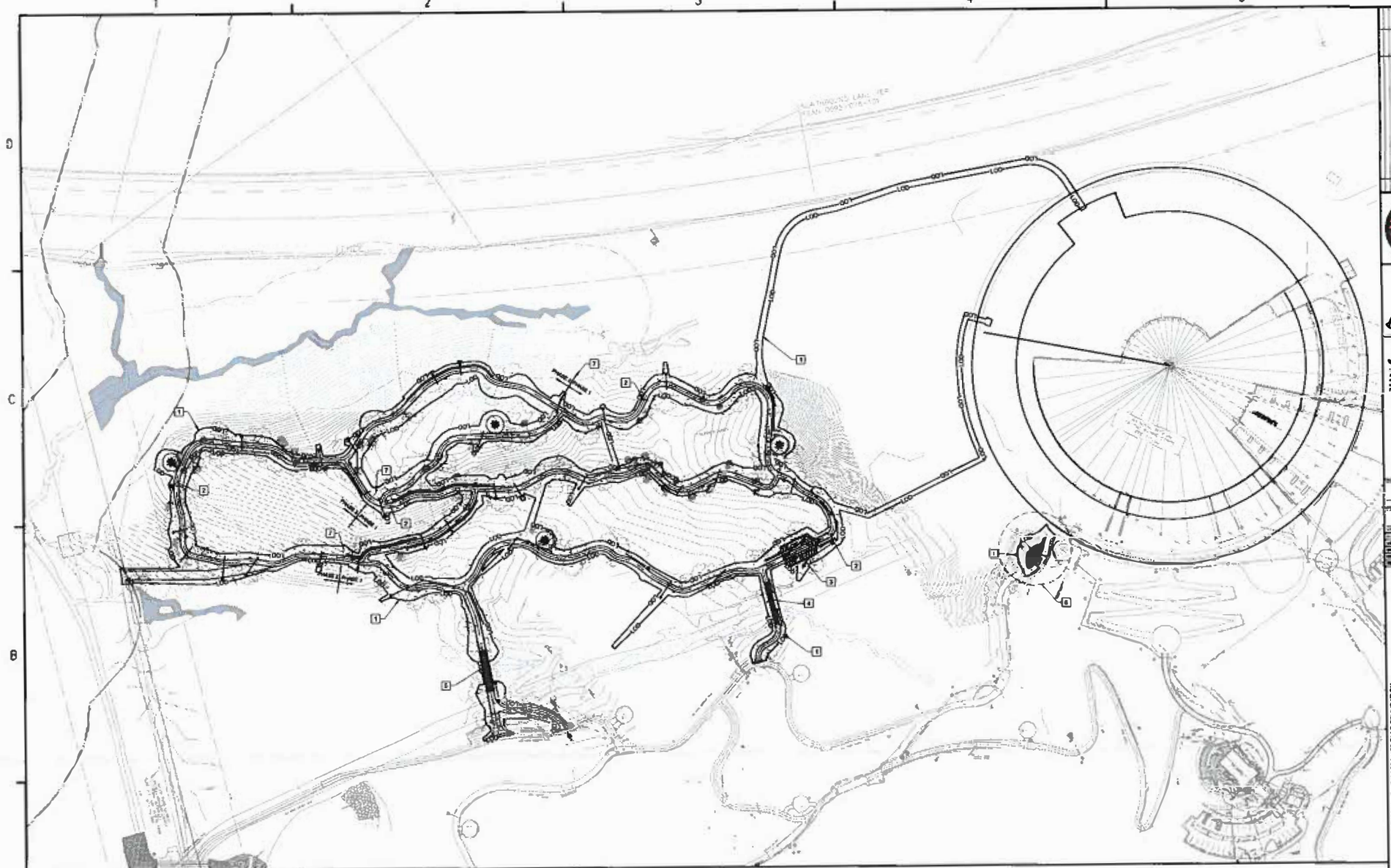
United States Geological Survey. 2021. *USGS Groundwater Data for Virginia.* *https*://waterdata.usgs.gov/va/nwis/gw.

US Marine Corps. 2011. United States Marine Corps National Environmental Policy Act (NEPA) Manual. 514 pp.

Virginia Department of Environmental Quality. 2021. VEGIS Datasets. http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS/VEGISDatasets.aspx. Accessed on 2 March 2021.

Virginia Department of Wildlife Resources. 2021. Indiana Bat. https://dwr.virginia.gov/wildlife/information/indiana-bat/. Accessed 19 March 2021.

Virginia Department of Wildlife Resources. 2021. Fish and Wildlife Information Service. https://vafwis.dgif.virginia.gov/fwis. Accessed on 5 February 2021.



A1 OVERALL SITE LAYOUT PLAN
SCALE: 1" = 60'

GENERAL SHEET NOTES

A VERIFY SITE FEATURE DIMENSIONS PRIOR TO INSTALLATION

NEW WORK KEYNOTES

1. LIMITS OF DISTURBANCE
2. 6' CONCRETE PATHWAY SEE C-001, DETAIL A3
3. PAVILION - SEE ARCHITECTURAL PLANS
4. PEDESTRIAN BRIDGE - SEE ARCHITECTURAL PLANS
5. HEAVY DUTY BRIDGE
6. BID OPTION #1 - OVERLOOK, SEE SHEET L5402
7. PHASE LIMITS - SEE SHEETS CS103A, CS105A, AND CS108A FOR DETAILS

LEGEND

- MONUMENT
- RALLY POINT

GRAPHIC SCALE(S)

0' 30' 60' 120' 180'
GRAPHIC SCALE 1" = 60'

PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

Jacobs

100 NORTH BELL ROAD
SUITE 205
CHESTER, Virginia 23836
PH: 804.276.3900
FAX: 804.276.3901

TOWILL

UNITED STATES MARINE CORPS HERITAGE FOUNDATION
18950 JEFFERSON DAVIS HIGHWAY TRIANGLE, VIRGINIA 22172

SEMPER FIDELIS MEMORIAL PARK EXPANSION
TRIANGLE, VIRGINIA
OVERALL SITE LAYOUT PLAN

SEMPER FIDELIS MEMORIAL PARK PROJECTS

CS101

From: amy.ewing@dwr.virginia.gov on behalf of dgif-ESS Projects, rr
To: Royston, Nicholas
Subject: Re: Project Review for Semper Fidelis Memorial Park Trail Expansion
Date: Monday, May 10, 2021 3:33:12 PM
Attachments: image001.png

Thank you for contacting us about your project. Due to staffing limitations, we are unable to review and provide comments on projects that are not currently involved in one of the regulatory review processes for which we are a formal consulting agency (see https://www.DWR.virginia.gov/environmental-programs/). If your project becomes involved in one of these review processes, we will review the project at that time and provide our comments to the requesting agency. In advance of that, we recommend that you conduct a preliminary desktop analysis to evaluate your project's potential impacts upon the Commonwealth's wildlife resources by accessing our online information system, the Virginia Fish and Wildlife Information Service (VAFWIS) and using the **Geographic Search** function to generate an **Initial Project Assessment** (IPA) report.

We recommend the following steps:

A. Access VAFWIS at this link: https://vafwis.DWR.virginia.gov/fwis/
If you are not already a VAFWIS subscriber, you should request to become one by emailing a request to VAFWIS_support@DWR.virginia.gov. VAFWIS Subscriptions are free of charge. As a subscriber, one is able to generate an IPA for the project area (project site plus a minimum 2-mile buffer) which generates a list of imperiled wildlife and designated wildlife resources known from the project area. You may also access VAFWIS as a visitor, but access to data and mapping at this user level is restricted.

Alternatively, you may contact our Geographic Information Systems (GIS) Coordinator, Jay Kapalczynski, at Jay.Kapalczynski@DWR.virginia.gov to request access to the Wildlife Mapping and Environmental Review Map Service (WERMS) which allows you to download GIS data into your own system.

B. Access information about the location of bat hibernacula and roosts from the following locations:

Northern Long-Eared Bats: https://www.dwr.virginia.gov/wildlife/bats/northern-long-eared-bat-application/

Little Brown Bats and Tricolored Bats:
https://www.dwr.virginia.gov/wildlife/bats/little-brown-bat-tri-colored-bat-winter-habitat-roosts-application/

C. Access up to date information about the location and status of bald eagle nests in Virginia by accessing the Center for Conservation Biology's Eagle Nest Locator at https://ccbbirds.org/what-we-do/research/species-of-concern/virginia-eagles/nest-locator/

D. Review the DWR information, guidance, and protocols available on our website at the bottom of this page in the "Additional Resources" section and implement, as appropriate.

E. Include the results of your desktop analysis with your project documents, applications, etc.

On Wed, May 5, 2021 at 11:38 AM Royston, Nicholas <nroyston@wetlands.com> wrote:

> Hello,
>
> Attached is a link to project information for the Semper Fidelis Memorial Park Trail Expansion project at Marine Corps Base – Quantico, in Prince William County. A letter is included requesting the Virginia Department of Wildlife Resources' (DWR) review of the proposed project. We would appreciate a response within 30 days.
>
> MCHF Trail Expansion DWR
>
> Thank you for your time. Please let me know if you have any questions or need additional information.
>
> **Nick Royston, WPIT** | Regulatory Specialist
>
> Associate Wildlife Biologist®
>
> ISA Certified Arborist MA-6151A
>
> **Wetland Studies and Solutions, Inc.**, a division of The Davey Tree Expert Company
>
> 5300 Wellington Branch Drive, Suite 100 | Gainesville, Virginia 20155
>
> direct: 703.679.5691 | cell: 571.329.0411 | main: 703.679.5600
>
> nroyston@wetlands.com | www.wetlands.com

VaFWIS Search Report Compiled on 5/19/2021, 9:55:25 AM

Help

Known or likely to occur within a **2 mile radius around point 38,32,46.7 -77,20,33.4** in **153 Prince William County, 179 Stafford County, VA**

View Map of Site Location

587 Known or Likely Species ordered by Status Concern for Conservation (displaying first 25) (25 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa	Yes	BOVA,SppObs
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA,HU6
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii		BOVA
060081	ST	IIa	Floater, green	Lasmigona subviridis		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA,HU6
010077		Ia	Shiner, bridle	Notropis bifrenatus	Potential	BOVA,Habitat
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes	Potential	BOVA,BBA,HU6
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		IIa	Tern, common	Sterna hirundo		BOVA,HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA

040105		IIb	Rail, king	Rallus elegans	Potential	BOVA,Habitat,HU6

To view **All 587 species** View 587

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need;
IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.;
b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams (2 records)

View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C64	Potomac river	Confirmed	6		IV	Yes
C67	Quantico Creek	Confirmed	2		IV	Yes

Impediments to Fish Passage (2 records)

View Map of All Fish Impediments

ID	Name	River	View Map
1262	CAMP 3	TR-SOUTH FORK QUANTI	Yes
1263	CARTER%27S DAY CAMP POND	SOUTH FORK QUANTICO CREEK	Yes

Colonial Water Bird Survey (1 records)

View Map of All Query Results Colonial Water Bird Survey

Colony_Name	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE*	Highest Tier**	
Chopawamsie Creek	1	May 19 2003	1			Yes

Displayed 1 Colonial Water Bird Survey

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

are present. [View Map of Bald Eagle Concentration Areas and Roosts]

(2 records)

BECAR ID	Observation Year	Authority	Type	Comments	View Map
55	2006 - 2007	VDGIF, Center for Conservation Biology	Summer Concentration Area	Eagle_use Moderate	Yes
56	2006 - 2007	VDGIF, Center for Conservation Biology	Winter Concentration Area	Eagle_use High	Yes

Bald Eagle Nests (1 records)

[View Map of All Query Results Bald Eagle Nests]

Nest	N Obs	Latest Date	DGIF Nest Status	View Map
ST9803	15	Apr 29 2007	HISTORIC	Yes

Displayed 1 Bald Eagle Nests

Species Observations (66 records - displaying first 20 , 1 Observation with Threatened or Endangered species)

[View Map of All Query Results Species Observations]

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
317184	SppObs	Aug 2 2006	Cara Campbell	3	SE	I	Yes
628295	SppObs	Sep 9 2016	Jonathan Witt; Shannon Curtis; Chad Grupe; Chris Ruck	16		III	Yes
628294	SppObs	Sep 9 2016	Jonathan Witt; Shannon Curtis; Chad Grupe; Chris Ruck	17		III	Yes
628258	SppObs	Sep 9 2015	LeAnne Astin; Shannon Curtis; Chad Grupe; John Burke	15		III	Yes
628257	SppObs	Sep 9 2015	Joseph Sanchirico; Danielle Wynne; Chad Grupe; John B	20		III	Yes
621908	SppObs	Sep 5 2014	Chris ; Ruck| Shannon ; Curtis| LeAnne; Astin| Danielle;	17		III	Yes
621916	SppObs	Sep 5 2014	Chris ; Ruck| Shannon ; Curtis| LeAnne; Astin| Danielle;	17		III	Yes
620801	SppObs	Sep 13 2013	Chad; Grupe| Takisha; Cannon| Joseph; Sanchirico| Shanno	18		III	Yes
620953	SppObs	Sep 13 2013	Chad; Grupe| Takisha; Cannon| Joseph; Sanchirico| Shanno	14		III	Yes

615993	SppObs	Oct 10 2012	Jason; Cessna	27		III	Yes
613534	SppObs	Sep 16 2011	Joe; Sanchirico| Shannon; Curtis| Chad; Grupe| Heather; Ambrose| LeAnne; Astin| Takisha; Cannon	21		III	Yes
613535	SppObs	Sep 16 2011	Joe; Sanchirico| Shannon; Curtis| Chad; Grupe| Heather; Ambrose| LeAnne; Astin	17		III	Yes
608316	SppObs	Sep 7 2010	Heather; Ambrose| Joseph; Sanchirico| Shannon; Curtis| Takisha; Cannon| LeAnne; Astin| Eric; Forbes	17		III	Yes
608315	SppObs	Sep 7 2010	Heather; Ambrose| Joseph; Sanchirico| Shannon; Curtis| Takisha; Cannon| LeAnne; Astin| Eric; Forbes	18		III	Yes
601432	SppObs	Aug 27 2009	Chad; Grupe| Takisha; Cannon| Danielle; Wynne| Heather; Ambrose| LeAnne; Astin| Eric; Forbes| Joseph; Sanchirico| Shannon; Curtis	23		III	Yes
603561	SppObs	Aug 21 2008	Shannon; Curtis| LeAnne; Astin| Eric; Forbes| Takisha; Cannon| Chad; Grupe	23		III	Yes
321315	SppObs	Jul 7 2007	Chad Grupe	18		III	Yes
321314	SppObs	Jul 7 2007	Chad Grupe	12		III	Yes
316621	SppObs	Sep 22 2006	Chad Grupe	16		III	Yes
308210	SppObs	Jul 21 2004	Matt Handy	17		III	Yes

Displayed 20 Species Observations

Selected 66 Observations View all 66 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species (1 Reach)

View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code	Status*	Tier**	Common & Scientific Name		
tributary (20700112)		010077		Ia	Shiner, bridle	Notropis bifrenatus	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species (3 Species)

View Map of Combined Terrestrial Habitat Predicted for 3 WAP Tier I & II Species Listed Below

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040105		IIb	Rail, king	Rallus elegans	Yes
040038			Bittern, American	Botaurus lentiginosus	Yes
040093			Eagle, bald	Haliaeetus leucocephalus	Yes

Virginia Breeding Bird Atlas Blocks (6 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
51174	Joplin, CE	21		III	Yes
51176	Joplin, SE	67		III	Yes
52174	Quantico, CE	28		III	Yes
52173	Quantico, CW	34		III	Yes
52176	Quantico, SE	66		III	Yes
52175	Quantico, SW	47		II	Yes

Public Holdings: (7 names)

Name	Agency	Level
Prince William Forest National Park	National Park Service	Federal
Prince William Forest Park	U.S. Dept. of Interior	Federal
Quantico - waterworks	U.S. Dept. of Navy	Federal
Quantico MCCDC - Guadalcanal side	U.S. Dept. of Navy	Federal
Quantico MCCDC - mainside	U.S. Dept. of Navy	Federal
Quantico MCCDC Special Mgmt Areas	U.S. Dept. of Navy	Federal
Quantico National Cemetary	U.S. Dept. of Navy	Federal

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
153	Prince William	483	FESE	I
179	Stafford	431	FESE	I

USGS 7.5' Quadrangles:
Joplin
Quantico

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
PL52	Quantico Creek	61	SS	I
PL53	Chopawamsic Creek	66	SS	I
PL54	Potomac River-Tank Creek	63	ST	I

Compiled on 5/19/2021, 9:55:25 AM I1095897.0 report=all searchType= R dist= 3218 poi= 38,32,46.7 -77,20,33.4

PixelSize=64; Anadromous=0.020897; BBA=0.042144; BECAR=0.025099; Bats=0.021356; Buffer=0.060554; County=0.054956; HU6=0.048565; Impediments=0.019045; Init=0.089305; PublicLands=0.025746; Quad=0.025976; SppObs=0.428309; TEWaters=0.019646; TierReaches=0.041536; TierTerrestrial=0.045695; Total=1.213733; Tracking_BOVA=0.249825; Trout=0.026826; huva=0.024887

Site Location

38,32,46.7 -77,20,33.4
is **the Search Point**

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

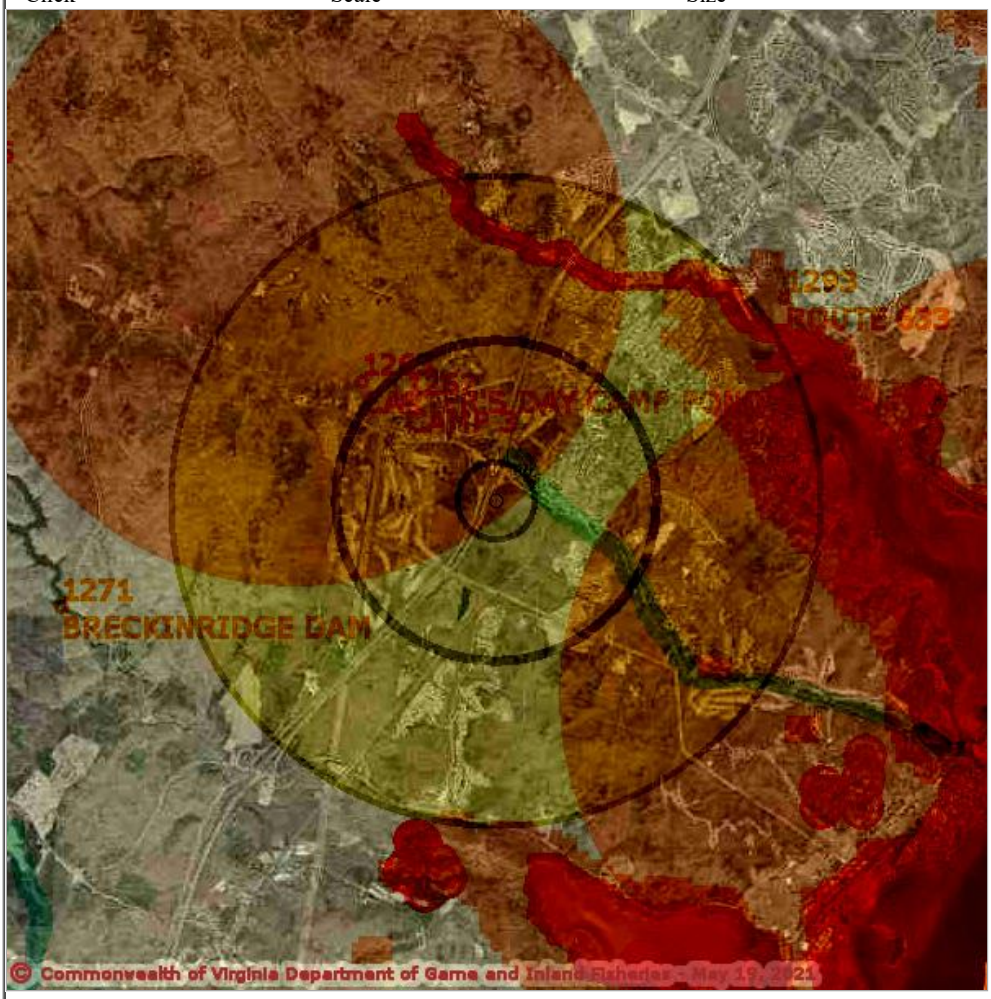
Base Map Choices
Color Aerial Photography

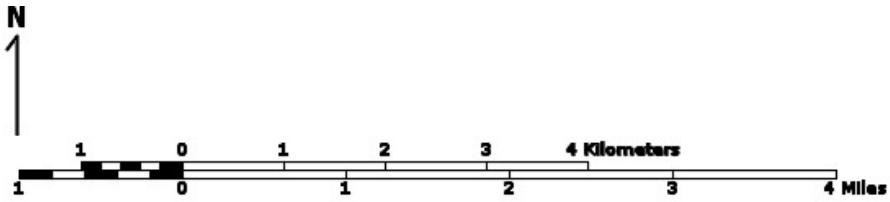
Map Overlay Choices
Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous

Map Overlay Legend

back | Refresh Browser Page | Help

Map Click: Pan | Id | M
Map Scale: In | Zoom | Out
Screen Size: Small | Size | Big





Point of Search 38,32,46.7 -77,20,33.4
Map Location 38,32,46.7 -77,20,33.4

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: Color Aerial Photography 2002 - Virginia Base Mapping Program, Virginia Geographic Information Network

Map projection is UTM Zone 18 NAD 1983 with left 291049 and top 4273833. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The

T & E Waters

Federal

State

Predicted Habitat WAP Tier I & II

Aquatic

Terrestrial

Trout Waters

Class I - IV

Class V - VI

Anadromous Fish Reach

Confirmed

Potential

23 Impediment

Position Rings 1 mile and 1/4 mile at the Search Point

2 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+-
are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic
http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2021-05-19 09:55:56 (qa/qc March 21, 2016 12:20 - tn=1095897.0 dist=3218 I)
$poi=38.5463056 -77.3426111

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: May 18, 2021
Consultation Code: 05E2VA00-2021-SLI-1236
Event Code: 05E2VA00-2021-E-10890
Project Name: Marine Corps Heritage Foundation Trail Expansion

Subject: Updated list of threatened and endangered species that may occur in your proposed project location 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: 05E2VA00-2021-SLI-1236
Event Code: 05E2VA00-2021-E-10890
Project Name: Marine Corps Heritage Foundation Trail Expansion
Project Type: RECREATION CONSTRUCTION / MAINTENANCE
Project Description: Expanding the existing trail system to accommodate additional visitors. Project area is approximately 25 acres. The study area is located between Interstate 95 (I-95) and Jefferson Davis Highway (U.S. Route 1) on the National Museum of the Marine Corps grounds, approximately 500 feet southwest of the museum building, in Prince William County, Virginia.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.54164117693439,-77.34421122427207,14z

Counties: Prince William County, Virginia

Endangered Species Act Species

There is a total of 3 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
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
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

Flowering Plants

NAME	STATUS
Small Whorled Pogonia *Isotria medeoloides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

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

USFWS National Wildlife 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.

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: March 12, 2021
Consultation code: 05E2VA00-2021-TA-1236
Event Code: 05E2VA00-2021-E-07468
Project Name: Marine Corps Heritage Foundation Trail Expansion

Subject: Verification letter for the 'Marine Corps Heritage Foundation Trail Expansion' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Nicholas Royston:

The U.S. Fish and Wildlife Service (Service) received on March 12, 2021 your effects determination for the 'Marine Corps Heritage Foundation Trail Expansion' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Indiana Bat Myotis sodalis Endangered
- Small Whorled Pogonia Isotria medeoloides Threatened

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

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[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Marine Corps Heritage Foundation Trail Expansion

2. Description

The following description was provided for the project 'Marine Corps Heritage Foundation Trail Expansion':

> Expanding the existing trail system to accommodate additional visitors. Project area is approximately 25 acres. The study area is located between Interstate 95 (I-95) and Jefferson Davis Highway (U.S. Route 1) on the National Museum of the Marine Corps grounds, approximately 500 feet southwest of the museum building, in Prince William County, Virginia.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.54164117693439,-77.34421122427207,14z

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

   No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

   No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

    No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

6

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 5/19/21

Self-Certification Letter

Project Name: Marine Corps Heritage Foundation Trail Expansion

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). 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 conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat.

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 determinations described above for proposed and listed species and proposed and designated critical habitat. 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 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

Endangered Species Act (ESA) Section 7 Determination Table

Project Name: Marine Corps Heritage Foundation Trail Extension Project

Date: May 19, 2021

Consultation Code: 05E2VA00-2021-SLI-1236

Species / Resource Name	Habitat/Species Presence in Action Area	Sources of Info	ESA Section 7 Determination	Project Elements that Support Determination
Indiana Bat (*Myotis sodalis)*	Potential habitat present (summer range).	Site visit, DWR VaFWIS and DCR-NHDE database	Not likely to adversely affect.	According to DWR, this species requires caves for habitat. There are no known caves or mines within or near the project LOD. Neither the DCR nor DWR database identified confirmed records of this species within a 2-mile radius of the action area. There would be up to 6 acres of vegetation, including mature trees, removed to construct the trail. The US Marine Corps and Marine Corps Heritage Foundation are committing to a time of year restriction for tree removal between April 15 to September 15.
Northern Long-eared Bat (*Myotis septentrionalis)*	Potential habitat present (summer range).	Site visit, Northern Long-eared Bat 4(d) Rule, DWR SpObbs Map, DWR map of NLEB locations and roost trees; DCR-NHDE	May affect.	According to the DWR NLEB Winter Habitat and Roost Tree map there are no roost trees or hibernacula near the project site (closest is over 60 miles west). Neither the DCR nor DWR database identified confirmed records of this species within a 2-mile radius of the action area. The US Marine Corps and Marine Corps Heritage Foundation are committing to a time of year restriction for tree removal between April 15 to September 15.
Small Whorled Pogonia *(Isotria medeoloides*)	Potential Habitat Present	Habitat evaluation and survey for Small Whorled Pogonia conducted July 17, 2020	No effect.	Wetland Studies and Solutions, Inc. biologists conducted a habitat evaluation and search for the Small Whorled Pogonia in the project study area on July 17, 2020. Report included with IPaC package. Report concludes: *No small whorled pogonias were found during the survey of the study area. "Medium-quality" habitat for this species is present on the study area, but a thorough search of the study area detected no individuals. Given the intensity with which the highest quality areas were searched and the systematic nature of the search for this species (i.e., investigating all "medium-quality" and some "low-quality" habitat areas as well), it is WSSI's opinion that there is a low probability that this species occurs on the study area, based on the negative search results for the small whorled pogonia on this study area.*
Critical Habitat.	None.	USFWS Official Species List	N/A	N/A

Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

Web Project ID: WEB0000014823

Client Project Number: 22599.02

PROJECT INFORMATION

TITLE: Marine Corps Heritage Foundation Trail Expansion

DESCRIPTION: Expansion of the Marine Corps Heritage Museum trail system at Marine Corps Base Quantico VA.

EXISTING SITE CONDITIONS: Maintained in areas, forested in areas.

QUADRANGLES: Quantico

COUNTIES: Prince William

Latitude/Longitude (DMS): 38° 32' 29.3132" N / 77° 20' 41.1301" W

Acreage: 34 acres

Comments:

REQUESTOR INFORMATION

Priority: N **Tier Level:** Tier II **Tax ID:**

Contact Name: Nick Royston

Company Name: Wetland Studies and Solutions, Inc.

Address: 5300 Wellington Branch Dr

City: Gainesville **State:** VA **Zip:** 20155

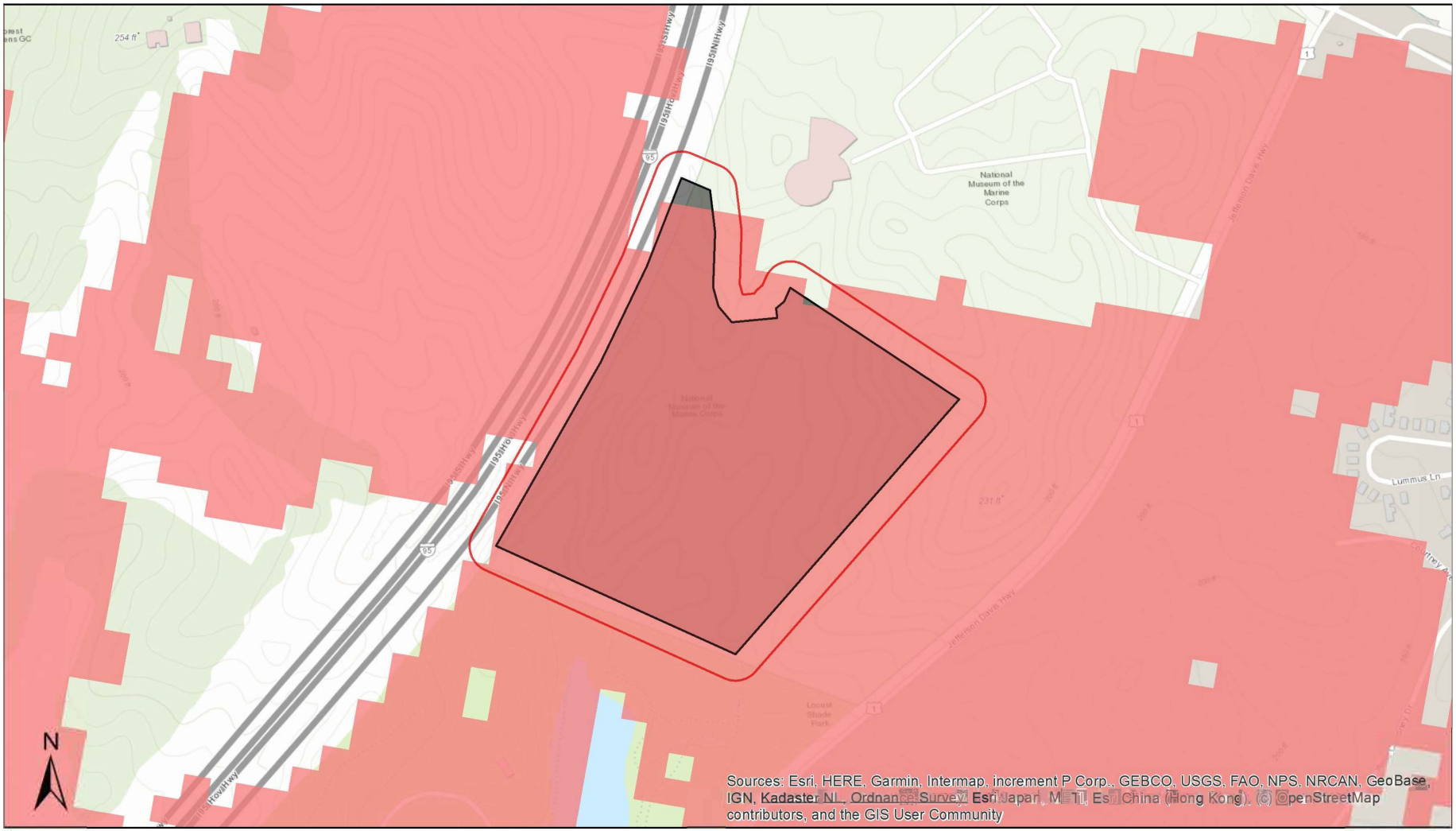
Phone: 5713290411 **Fax:** **Email:** nroyston@wetlands.com

Conservation Site	Site Type	Brank	Acreage	Listed Species Presence	Essential Conservation Site?
Natural Heritage Screening Features Intersecting Project Boundary					

Site Name	Group Name	Common Name	Scientific Name	GRANK	SRANK	Fed Status	Species of Concern	State Status	EO Rank	Last Obs Date	Precision
Natural Heritage Resources Intersecting Project Boundary											

Intersecting Predictive Models
Small Whorled Pogonia
Predictive Model Results

Marine Corps Heritage Foundation Trail Expansion



Project Boundary

Buffered Project Boundary

Predictive Models

1:5,979

0 0.05 0.1 0.2 mi

0 0.075 0.15 0.3 km

Quads: Quantico

Counties: Prince William

Company: Wetland Studies and Solutions, Inc.

Lat/Long: 383229 / -772041

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

The project mapped as part of this report has been searched against the Department of Conservation and Recreation's Biotics Data System for occurrences of natural heritage resources from the area indicated for this project. 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 Biotics files, NATURAL HERITAGE RESOURCES HAVE BEEN DOCUMENTED within the submitted project boundary including a 100 foot buffer and/or PREDICTED HABITAT MODELS FOR NATURAL HERITAGE RESOURCES intersect the project area.

You have submitted this project to DCR for a more detailed review for potential impacts to natural heritage resources. DCR will review the submitted project to identify the specific natural heritage resources within the proposed project area including a 100 foot buffer. Using the expertise of our biologists, DCR will evaluate whether your specific project is likely to impact these resources. DCR's response will indicate whether any negative impacts are likely and, if so, make recommendations to avoid, minimize and/or mitigate these impacts. If the potential negative impacts are to species that are state- or federally-listed as threatened or endangered, DCR will also recommend coordination with the appropriate regulatory agencies: the Virginia Department of Wildlife Resources for state-listed animals, the Virginia Department of Agriculture and Consumer Services for state-listed plants and insects, and the United States Fish and Wildlife Service for federally listed plants and animals. If your project is expected to have positive impacts we will report those to you with recommendations for enhancing these benefits.

There will be a charge for this service for "for profit companies": $60, plus an additional charge of $35 for 1-5 occurrences and $60 for 6 or more occurrences.

Please allow up to 30 calendar days for a response, unless you requested a priority response of 5 business days at an additional surcharge of $500 or 15 calendar days at an additional surcharge of $300. An invoice will be provided with your response.

We will review the project based on the information you included in the Project Info submittal form, which is included in this report. Also any additional information including photographs, survey documents, etc. attached during the project submittal process and/or sent via email referencing the project title (from the first page of this report).

Thank you for submitting your project for review to the Virginia Natural Heritage Program through the NH Data Explorer. Should you have any questions or concerns about DCR, the Data Explorer, or this report, please contact the Natural Heritage Project Review Unit at 804-371-2708.

From: Allison King
To: Royston, Nicholas; Blevins, Christie; hughes@marineheritage.org
Subject: VWP 45-Day Coverage: Semper Fidelis Memorial Park Trail Expansion WP3-21-1401
Date: Wednesday, July 7, 2021 4:39:10 PM
Attachments: Final Att 2 GP Monthly Insp Form Generalized 5-20-2021.docx
Final Att 1 GP CSU Form Generalized 5-20-2021.docx

Good afternoon,

DEQ has received JPA Number 21-1401. If you do not receive a request for additional information by July 15, 2021, and you do not receive further correspondence from DEQ by August 13, 2021, then, in accordance with 9VAC25-680-60.D, your application is granted coverage in accordance with 9VAC25-680-100, - VWP GENERAL PERMIT NO. WP3. You are responsible for compliance with the permit and all applicable conditions. The permit is available at:

VWP GENERAL PERMIT NO. WP3 FOR LINEAR TRANSPORTATION PROJECTS UNDER THE VIRGINIA WATER PROTECTION PERMIT AND THE VIRGINIA STATE WATER CONTROL LAW

Attached to this email are the forms to complete the required Monthly Self-Inspection and Construction Status Update Forms required by the permit.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 calendar days from the date of service (the date you actually received this decision or the date it was e-mailed to you, whichever occurred first) within which to file with the Director, Department of Environmental Quality, a notice of appeal in accordance with the Rules of the Supreme Court of Virginia. In the event that this decision is served on you by mail, three days are added to that period. Refer to Part 2A of the Rules of the Supreme Court of Virginia for additional requirements governing appeals from administrative agencies.

Alternatively, an owner may request a formal hearing for the formal taking of evidence upon relevant fact issues under Section 2.2-4020 of the Administrative Process Act. A petition for a formal hearing must meet the requirements set forth in Procedural Rule No. 1 - Public and Formal Hearing Procedures (9VAC25-230 *et seq.*). In cases involving actions of the board, such petition must be filed within 30 calendar days after notice of such decision is sent to such owner by certified mail.

The VWP Permit shall constitute the § 401 Water Quality Certification (WQC) per § 62.1-44.15:20 D of the Code of Virginia. DEQ's § 401 WQC decisions neither replace or supersede requirements set forth by local, state, federal, and Tribal laws, nor eliminate the need to obtain local, state, federal, and Tribal permits, approvals, consultations, or authorizations, as required, before commencing the proposed activities in surface waters.

Attachments: Construction Status Update Form, Monthly Inspection Form

Respectfully,
Allison King
Virginia Water Protection Permit Program
DEQ - Northern Regional Office

13901 Crown Court
Woodbridge, VA 22193
Phone 703-583-3909

COMMONWEALTH of VIRGINIA

Marine Resources Commission
Building 96
380 Fenwick Road
Fort Monroe, VA 23651

Matthew J. Strickler
Secretary of Natural Resources

Steven G. Bowman
Commissioner

July 22, 2021

Marine Corps Heritage Foundation
Attn: General James Lukeman
c/o Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, VA 20155
hughes@marineheritage.org
cblevins@wetlands.com

Re: VMRC #21-1401

Dear General Lukeman:

This letter will acknowledge receipt of your application requesting authorization to fill and impact non-tidal wetlands in association with the Semper Fidelis Memorial Park Trail Expansion Project, in Prince William County.

Based upon a review of your application, your proposal does not fall within the jurisdiction of the Marine Resources Commission, therefore, no authorization will be required from this agency. For your information, you may need authorization from your local wetlands board, the U. S. Army Corps of Engineers and/or the Department of Environmental Quality (DEQ) prior to commencing your project. Your application has been forwarded to these agencies.

If I may be of further assistance, please contact me at (757) 247-8028 or via e-mail at mark.eversole@mrc.virginia.gov.

Sincerely,

Mark Eversole
Environmental Engineer

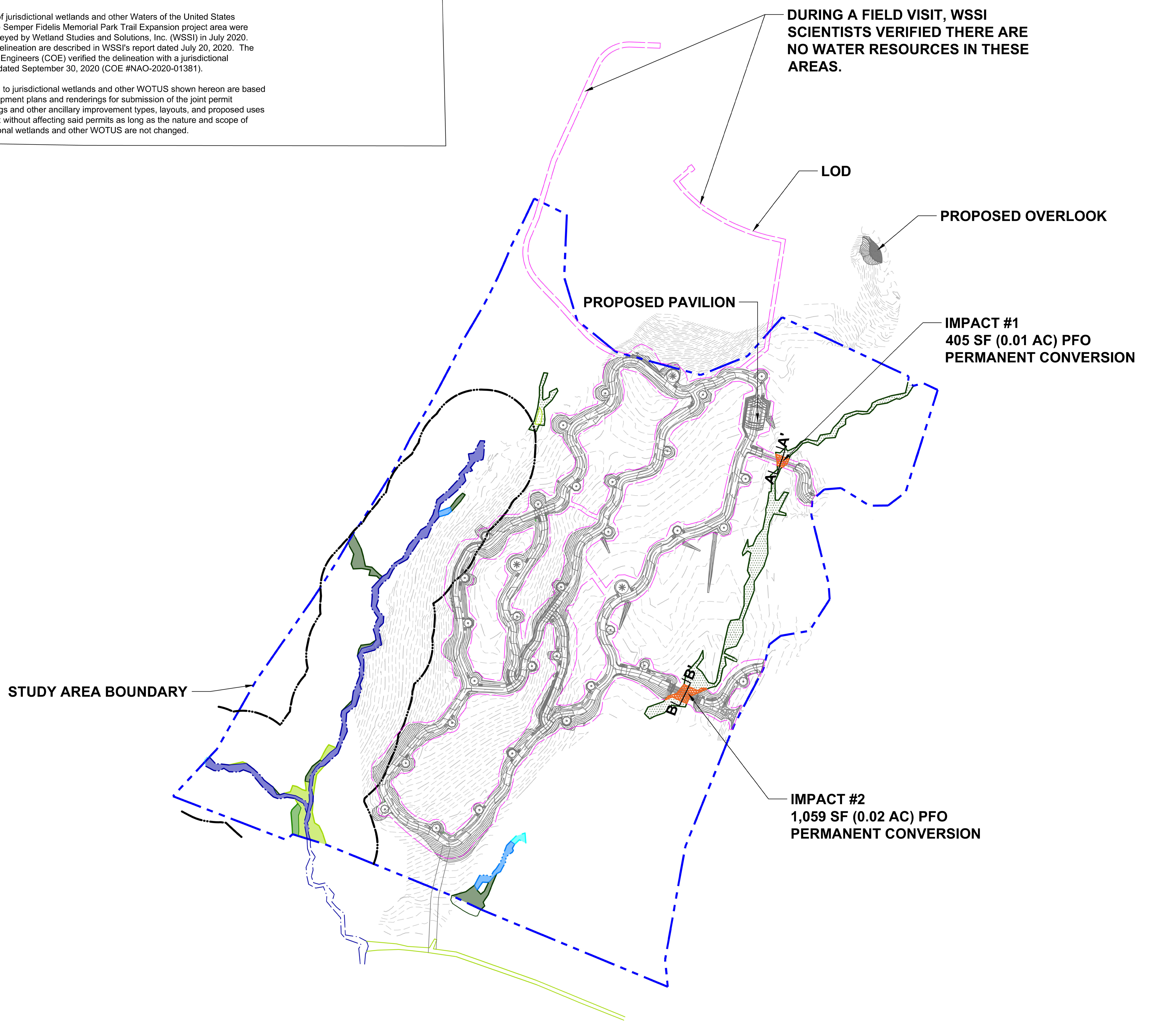
ME/lra
HM
cc: Department of Environmental Quality #4
Prince William County Wetlands Board
U. S. Army Corps of Engineers
Applicant

NOTES:

1. Topography, site boundary and site design information provided by Jacobs Engineering Group, was used as a base for this exhibit. The contour interval (C.I.) is 2 feet.

2. The boundaries of jurisdictional wetlands and other Waters of the United States (WOTUS) within the Semper Fidelis Memorial Park Trail Expansion project area were delineated and surveyed by Wetland Studies and Solutions, Inc. (WSSI) in July 2020. The results of this delineation are described in WSSI's report dated July 20, 2020. The U.S. Army Corps of Engineers (COE) verified the delineation with a jurisdictional determination (JD) dated September 30, 2020 (COE #NAO-2020-01381).

3. Limits of impacts to jurisdictional wetlands and other WOTUS shown hereon are based upon current development plans and renderings for submission of the joint permit application. Buildings and other ancillary improvement types, layouts, and proposed uses may vary somewhat without affecting said permits as long as the nature and scope of impacts to jurisdictional wetlands and other WOTUS are not changed.



LEGEND

- STUDY AREA BOUNDARY
- PROPOSED PERMANENT CONVERSION IMPACT AREAS
- LIMITS OF DISTURBANCE
- PERENNIAL STREAM (PER WSSI'S OBSERVATIONS)
- INTERMITTENT STREAM (PER WSSI'S OBSERVATIONS)
- EPHEMERAL STREAM (PER WSSI'S OBSERVATIONS)
- PALUSTRINE FORESTED WETLAND AREAS
- PALUSTRINE SCRUB/SHRUB WETLAND AREAS
- PALUSTRINE EMERGENT WETLAND AREAS
- ISOLATED WATERBODIES (PFO)
- FIELD VERIFIED RESOURCE PROTECTION AREA BOUNDARY

COWARDIN CLASSIFICATION

PFO	PALUSTRINE FORESTED WETLAND
PSS	PALUSTRINE SCRUB-SHRUB WETLAND
PEM	PALUSTRINE EMERGENT WETLAND
R3	RIVERINE UPPER PERENNIAL
R4	RIVERINE INTERMITTENT
R6	RIVERINE EPHEMERAL

SEMPER FIDELIS MEMORIAL PARK TRAIL EXPANSION
EXHIBIT 6
SUMMARY OF IMPACTS TO WETLANDS

Permanent Impacts	ISOLATED PFO (SF)	ISOLATED PFO (AC)	Total Impact Area (SF)	Total Impact Area (AC)	WOTUS Impact Description	Impact Coordinates	DEQ Classification
1	405	0.01	405	0.01	F, NT, PC, V, MC	38°32'31.61"N, 77°20'37.66"W	Class VII
2	1,059	0.02	1,059	0.02	F, NT, PC, V, MC	38°32'26.93"N, 77°20'39.46"W	Class VII
Total	**1,464**	**0.03**	**1,464**	**0.03**			

*F = Fill, EX = Excavation, S = Structure; T = Tidal; NT = Nontidal; TE = Temporary; PC = Permanent Conversion; PR = Perennial; IN = Intermittent; SB = Subaqueous Bottom; DB = Dune/Beach; IS = Hydrologically Isolated; V = Vegetated; NV = Non-vegetated; MC = Mechanized Clearing of PFO

TYPE OF WOTUS:
PFO= Palustrine Forested Wetland

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

Wetland Studies and Solutions, Inc.
a DAVEY company
5300 Wellington Branch Drive • Suite 100
Gainesville, Virginia 20155
Phone: 703-679-5600 • Fax: 703-679-5601
www.wetlands.com

Exhibit 7:
Overall Wetlands and Waters of the U.S. (WOTUS) Impact Map

Prepared For: Marine Corps Heritage Foundation

Semper Fidelis Memorial Park Trail Expansion
Prince William County, Virginia

REVISIONS

No.	Date	Description	Rev. By	App. By

DATE: June 2021
SCALE: 1" = 100' C.I.:2'

Horizontal Datum: VCS NAD 83
Vertical Datum: NAVD 88
Boundary and Topo Source: Jacobs Engineering Group

Design	Draft	Approved
NR	LC	CB

Sheet #
3 of 6

Computer File Name:
L:\22000s\22500\22599.02\CADD\07-REGS\Updated files
MCHF_Impact_Map.dwg

Federal Consistency Determination
Semper Fidelis Memorial Park Trail Extension
Prince William County, VA

This document provides the Commonwealth of Virginia with the US Marine Corps' (USMC) Consistency Determination under CZMA section 307(c)(1) and 15 CFR Part 930 subpart C for the Semper Fidelis Memorial Park Trail Extension project in Prince William County, Virginia. The information in this Consistency Determination is provided pursuant to 15 CFR § 930.39. This activity includes:

The purpose of the proposed Project is to continue to promote the rich history, traditions, and culture of the USMC. The expansion would provide additional areas for monuments, plaques, and bricks to educate and inspire both visitors and donors. The proposed Project would be constructed by the Marine Corps Heritage Foundation (MCHF) at the National Museum (the Museum) of the Marine Corps at Marine Corps Base Quantico (38°32'34" N, 77°20'32" W). Because the Project is located on USMC property, it is being reviewed in accordance with requirements of the National Environmental Policy Act (NEPA).

The proposed 5,200-linear foot trail would start with a new 800-square foot overlook and terminate with a tie-in to an existing trail at the Museum. The extension would include up to five new monument areas (rally points), 28 new memorial sites, benches, a 2-inch watermain to serve freeze proof hose bibs, conduits for the connection of utility lines, and poles for security cameras. A 20- by 30-foot wood and stone memorial pavilion would be constructed along the trail to provide shelter for pedestrians. Two 50-foot bridges would cross an isolated wetland area. The immediate project vicinity is wooded; the area surrounding the forest contains the Museum, a parking lot, and maintained turf.

The USMC has determined that the Semper Fidelis Memorial Park Trail Extension project affects the land or water uses of natural resources in Virginia in the following manner: Please refer to **Chapter 4** (pages 14 – 20) of the Environmental Assessment (EA) for details.

The Virginia Coastal Zone Management Program contains the following applicable enforceable policies:

I. Tidal and Non-Tidal Wetlands – the project would be in compliance with this enforceable policy

II. Subaqueous Lands – this enforceable policy is not applicable to this project

III. Dunes and Beaches – this enforceable policy is not applicable to this project

IV. Chesapeake Bay Preservation Areas – the project would be in compliance with this enforceable policy

V. Marine Fisheries – this enforceable policy is not applicable to this project

VI. Wildlife and Inland Fisheries – the project would be in compliance with this enforceable policy

VII. Plant Pests and Noxious Weeds – the project would be in compliance with this enforceable policy

VIII. Commonwealth Lands – this enforceable policy is not applicable to this project

IX. Point Source Air Pollution – the project would be in compliance with this enforceable policy

X. Point Source Water Pollution – this enforceable policy is not applicable to this project

XI. Nonpoint Source Water Pollution – the project would be in compliance with this enforceable policy

XII. Shoreline Sanitation – this enforceable policy is not applicable to this project

Based upon the following information, data, and analysis, the USMC finds that the Semper Fidelis Memorial Trail Extension project is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Management Program.

I. Tidal and Non-Tidal Wetlands – A Waters of the U.S. delineation was performed in the study area in June and July of 2020, pursuant to the *Army Corps of Engineers Wetland Delineation Manual (1987)* and subsequent guidance including the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (2010).* The delineation identified 0.59 acres of jurisdictional wetlands and 1,339 linear feet of streams within the delineation area (**Appendix B** of the EA). An Approved Jurisdictional Determination for the study area was received from the U.S. Army Corps of Engineers (USACE) in September 2020. Although 0.04 acres of isolated palustrine forested wetlands would be impacted by construction of the proposed bridges, mitigation would not be required since impacts would be less than 0.1 acre. The USMC would obtain authorization from the Virginia Department of Environmental Quality (DEQ) as applicable. **Therefore, the project would comply with this enforceable policy.**

II. Subaqueous Lands – The project area contains no state-owned bottomlands. **This enforceable policy is not applicable to this project.**

III. Dunes and Beaches – There are no coastal primary sand dunes or beaches in the project area. **This enforceable policy is not applicable to this project.**

IV. Chesapeake Bay Preservation Areas – Per to the Chesapeake Bay Preservation Act, Prince William falls within Tidewater Virginia and is subject to the Act. The County's Chesapeake Bay Overlay District Mapping shows that portions of the project site fall within a Chesapeake Bay Preservation Area Resource Protection Area (RPA) and Resource Management Area (see **Appendix B** of the EA). Per the Prince William County Design and Construction Standards Manual, Section 740.04 *Exemptions in Resource Protection Areas*, construction of a trail in an RPA is permitted without the submissions and approvals otherwise required by Prince William County Department of Public Works under Section 740. However, trails should be located so as to minimize impacts to the maximum extent practicable, which the current plan accomplishes. T**he project would comply with this enforceable policy.**

V. Marine Fisheries – The project area does not include any habitat for marine finfish, shellfish, or other marine organisms. No marine habitat, finfish, or shellfish would be affected by the proposed construction plan. **This enforceable policy is not applicable to this project.**

VI. Wildlife and Inland Fisheries – The project would not introduce aquatic nuisance, predatory, or undesirable species. The Virginia Department of Wildlife Resources' (DWR) Fish and Wildlife Information Service database confirmed the presence of the state-threatened brook floater within two miles of the proposed project. The US Fish and Wildlife Service's Information for Planning and Consultation database does not identify critical habitat for any protected species within two miles of the study area. However, it did indicate there is potential habitat for the federally endangered Indiana bat, federally threatened northern long-eared bat, and federally threatened small-whorled pogonia. The Virginia Department of Conservation and Recreation Natural Heritage Database did not identify any additional protected species in the study area. Supporting documentation is provided in **Appendix B** of the EA. **The project would comply with this enforceable policy.**

VII. Plant Pests and Noxious Weeds – The proposed project would not sell, barter, offer for sale, move, transport, deliver, ship, or offer to ship into the Commonwealth any plant pests or noxious weed, nor import infested or quarantined regulated articles designated by the Virginia Department of Agriculture and Consumer Services. **The project would comply with this enforceable policy.**

VIII. Commonwealth Lands – The proposed project does not include Commonwealth lands under the jurisdiction of the Virginia DWR or Virginia Department of Conservation and Recreation. **This enforceable policy is not applicable to this project.**

IX. Point Source Air Pollution – Prince William County is in an attainment area for all criteria pollutants except for the 8-hour ozone standard. The project would adhere to all laws and regulations set forth by the federal Clean Air Act and administered by the State Air Pollution Control Board. Measures would be employed during construction, to the extent practicable, to minimize volatile organic compounds and nitrous oxide emissions during operation of construction equipment and vehicles. Traffic congestion and localized vehicular idling would be minimized to the extent practicable. During construction, fugitive dust would 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 which may include: use of water or chemicals for dust control, covering of open equipment for conveying and transporting materials, prompt removal of spilled or tracked dirt or other materials from paved streets, and removal of dried sediments resulting from soil erosion. No adverse impacts to air quality are anticipated as a result of this project. T**he project would comply with this enforceable policy.**

X. Point Source Water Pollution –No point sources are anticipated. **Therefore, this enforceable policy is not applicable to this project.**

XI. Nonpoint Source Water Pollution– Non-point source pollution would be managed in adherence to applicable state and Prince William County stormwater and erosion and control regulations and ordinances. As applicable, in accordance with 9 VAC25-870-51, the project would develop an erosion and sediment control plan consistent with the requirements of the Virginia Erosion and Sediment Control Law and regulations and a stormwater management

plan consistent with the requirements of the Virginia Stormwater Management Act and regulations. These actions would minimize any potential non-point source pollution impacts from the proposed project. **Therefore, the project would comply with this enforceable policy.**

XII. Shoreline Sanitation –No septic tanks would be installed or used at the site. **Therefore, this enforceable policy is not applicable to this project.**

Pursuant to 15 CFR Section 930.41, the Virginia Coastal Zone Management Program has 60 days from the receipt of this letter in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR section 930.41(b). Virginia's concurrence will be presumed if its response is not received by the USMC on the 60th day from receipt of this determination. The State's response should be sent to hughes@marineheritage.org.

2021-0147

UNITED STATES MARINE CORPS
MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION
MARINE CORPS BASE QUANTICO
3250 CATLIN AVENUE
QUANTICO VIRGINIA 22134 5001

IN REPLY REFER TO:
5090
B 046
July 7, 2021

RECEIVED
JUL 21 2021
Department of
Historic Resources

Ms. Julie Langan
State Historic Preservation Officer
Department of Historic Resources
2801 Kensington Ave.
Richmond, VA 23221

Dear Ms. Langan:

SUBJECT: CONCURRENCE ON THE PROPOSED ELIGIBILITY OF DHR# 076-5195

The Marine Corps Heritage Foundation trail expansion project proposes constructing 5,200 feet of 10 foot wide paved trail connecting with the existing trail system. The Area of Potential Effect for this project is within an area where previous surveys evaluated a section of the Washington/Rochambeau road. This section was evaluated as an eligible resource under Criteria A and D.

A review of the Washington/Rochambeau road (DHR# 076-5195) based on historic maps, current LIDAR data, a Phase I, and a pedestrian survey found that this sections of the road no longer exists. This site has not retained integrity necessary to convey its significance; nor can it yield any unique information about eighteenth century road archaeologically. Therefore, the Marine Corps Base Quantico, Cultural Resource Manager recommends this site as not eligible for listing on the National Register of Historic Places.

Please review the enclosed report and indicate if you concur/non-concur with the recommended eligibility by countersigning and returning this letter to the MCBQ Cultural Resource Manager, Catherine Roberts, at (703) 432-6781, or catherine.roberts@usmc.mil.

Sincerely,

W.J. CHRISTENSEN
Environmental Director

Enclosure 1. Semper Fi Trail Expansion Survey

CONCUR/NON-CONCUR: On the proposed eligibility of DHR# 076-5195

for State Historic Preservation Office — 27 July 2021 Date

Snapshot

Date Generated: November 02, 2020

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): 15000 B.C.E - 1606 C.E
Site Type(s): Camp, temporary
Other DHR ID: No Data
Temporary Designation: N-1

Site Evaluation Status

DHR Staff: Not Eligible

Locational Information

USGS Quad: QUANTICO
County/Independent City: Prince William (County)
Physiographic Province: Coastal Plain
Elevation: 145
Aspect: Facing South
Drainage: Potomac/Shenandoah River
Slope: 2 - 6
Acreage: No Data
Landform: No Data
Ownership Status: No Data
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Camp, temporary
Cultural Affiliation: Native American
DHR Time Period: Pre-Contact
Start Year: -15000
End Year: 1606
Comments: No Data

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 44PW1046
Staff Name: Harbury, Katherine
Event Date: 6/18/2003
Staff Comment No Data

Event Type: Survey:Phase I/Reconnaissance

Project Staff/Notes:

Compliance survey in advance of proposed development of The Marine Corps Heritage Center.

Project Review File Number: 1998-0842
Sponsoring Organization: No Data
Organization/Company: Parsons Engineering Science (DSS)
Investigator: No Data
Survey Date: 3/17/1999
Survey Description:

Shovel tests (STPs) on 15 m staggered grid, initially following land form. Resumed staggered grid with positive STPs, 4 STPs (2 positive) and 5 radials (3 positive) were dug. Site boundary not fully delineated by project boundary limitations as the site boundary extends to the south beyond the limits of testing.

Current Land Use	Date of Use	Comments
Park	*No Data*	*No Data*

Threats to Resource: No Data
Site Conditions: Surface Deposits Present But With No Subsurface Integrity
Survey Strategies: Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: Yes
Artifacts Summary and Diagnostics:

8 quartz flakes, 1 quartz core, 1 quartzite fire cracked rock.

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: VDHR
Permanent Curation Repository: No Data
Field Notes: Yes
Field Notes Repository: VDHR
Photographic Media: No Data
Survey Reports: Yes
Survey Report Information:

Steven, J. Sanderson, Dennis Knepper, Sean Fitzell, & Madeleine Pappas. Phase I Archaeological Survey, Marine Corps Heritage Center, Marine Corps Base, Quantico, Stafford County, Virgina (1999).

Survey Report Repository: VDHR
DHR Library Reference Number: ST-058
Significance Statement: No Data
Surveyor's Eligibility Recommendations: No Data
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

Property Information

Property Names

Name Explanation	Name
Historic/Location	Colonial Road (King's Highway) Section, U.S. Marine Corps Heritage Center

Property Addresses

Current - 18900 Jefferson Davis Highway

County/Independent City(s): Prince William (County)
Incorporated Town(s): *No Data*
Zip Code(s): 22172
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): QUANTICO

Property Evaluation Status

Not Evaluated

This Property is associated with the Revolutionary War Route and Transportation Survey … 1781-1782.

Additional Property Information

Architecture Setting: Town
Acreage: *No Data*

Site Description:

2009: This historic road section ends on the edge of the parking lot of the U.S. Marine Corps Heritage Center from where it is clearly visible.

November 2012: This approximately 1,200-ft section of road trace begins approximately half a mile south of Joplin Road, on the west side of Jefferson Davis Highway (US Route 1), and runs north through the wooded area south of the National Museum of the Marine Corps. It is a segment of the main historic north-south route taken between Newport, Rhode Island, and Yorktown, Virginia, by Jean-Baptiste de Rochambeau and George Washington prior to the Battle of Yorktown in 1781.

Surveyor Assessment:

Start Year: 1781 ca
End Year: 1782 ca
Date Source: Site Visit/Written Data
Type: Historical Event
Notes: June 2009:

The military campaign of 1781, which resulted in the defeat of Lord Cornwallis at Yorktown, ranks among the three or four most important campaigns fought on American soil, including the Saratoga Campaign of 1778, the Gettysburg Campaign or Sherman's march to the sea during the Civil War. Though few participants dared to hope that much, the loss of Britain's last operational field army at Yorktown convinced the ministry in London that the war could no longer be won by military means and that serious peace negotiations could not be avoided any longer. Only fifteen months after Yorktown, King George III agreed to grant America her independence. It was over the King's Highway that the marquis de Lafayette marched to Virginia in the spring of 1781 to harass and keep an eye on Lord Cornwallis. A few short months later it was over that same King's Highway that French and American forces and their supplies marched and rode to and from the victory over Cornwallis at Yorktown.

June 2009: This undeveloped road section through Prince William Park, clearly visible in aerial photography in the 1930s, is well preserved and maintained but unfortunately was cut off at the parking lot of the USMC Heritage Center.

November 2012: This section of the former King's Highway dating to the eighteenth century is relatively intact, and being in the woods, is for the most part buffered from modern intrusions. The road trace section is currently being interpreted with informational waysides. It is not an evolved and extensively updated route, and for portions there have been no improvements to the road itself that have diminished its design, feeling, materials, and setting. Due to its level of integrity and its association with the Yorktown Campaign, this section of the historic King's Highway road trace is recommended as potentially eligible for the NRHP and should be evaluated in the context of an historic transportation corridor including early trading paths, Washington and Rochambeau's route to the Battle of Yorktown, and the development of Virginia roadways in the eighteenth and nineteenth centuries.

It is part of the King's Highway traveled by Washington, Rochambeau and their armies to and from the victory at Yorktown in 1781 and 1782.

Surveyor Recommendation: *No Data*

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Transportation
Resource Type: Road/Road Trace
NR Resource Type: Structure
Historic District Status: Contributing
Date of Construction: Ca 1750
Date Source: Site Visit/Map
Historic Time Period: Contact Period (1607 - 1750)
Historic Context(s): Commerce/Trade, Military/Defense, Transportation/Communication
Other ID Number: *No Data*
Architectural Style: *No Data*
Form: *No Data*
Number of Stories: *No Data*
Condition: *No Data*
Threats to Resource: None Known
Architectural Description:

November 2012: This trace of a colonial road known as The King's Highway is situated in a wooded area and as such has been overgrown with trees for at least 85 years (the road is not indicated on a 1927 USGS topographic map). Approximately 200 ft of the residual road cut is visible in the wooded area from a power line right-of-way south to Jefferson Davis Highway (US Route 1). The 475-ft portion of the road trace adjacent to the north has been paved as part of a pedestrian trail between the National Museum of the Marine Corps and Locust Shade Park, and is currently marked with an interpretive wayside. An additional approximately 500-foot section of the road trace is visible in the woods to the west of the pedestrian path, north of the power line right of way.

Secondary Resource Information

Historic District Information

Historic District Name: Revolutionary War Route and Transportation Survey … 1781-1782
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Coastal Carolina Research
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 10/10/2012
Dhr Library Report Number: VA-078
Project Staff/Notes:

Cultural Resources Survey for Route 1 Corridor At Marine Corps Base Quantico, Prince William and Stafford Counties, Virginia.

Project Bibliographic Information:

Name: Selig, Dr. Robert A.
DHR CRM Report Number: VA-078
Record Type: Report
Bibliographic Notes: Revolutionary War Route and Transportation Survey in the Commonwealth of Virginia, 1781-1782. (Richmond, 2009)

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*

Investigator: Selig, Dr. Robert A.
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 6/1/2008
Dhr Library Report Number: VA-078
Project Staff/Notes:

This survey was conducted as part of the Cost-Share Survey that began as the Washington-Rochambeau Route. After initial investigations and survey, the project evolved to encompass land routes in 17 jurisdictions taken by Continental Army, French and Crown forces from August 1781 to July 1782 to, and from, the siege of Yorktown.

Project Bibliographic Information:

Name: Selig, Dr. Robert A.
DHR CRM Report Number: VA-078
Record Type: Report
Bibliographic Notes: Revolutionary War Route and Transportation Survey in the Commonwealth of Virginia, 1781-1782. (Richmond, 2009)

Bibliographic Information

Bibliography:

No Data

Property Notes:

No Data

EJSCREEN Report (Version 2019)

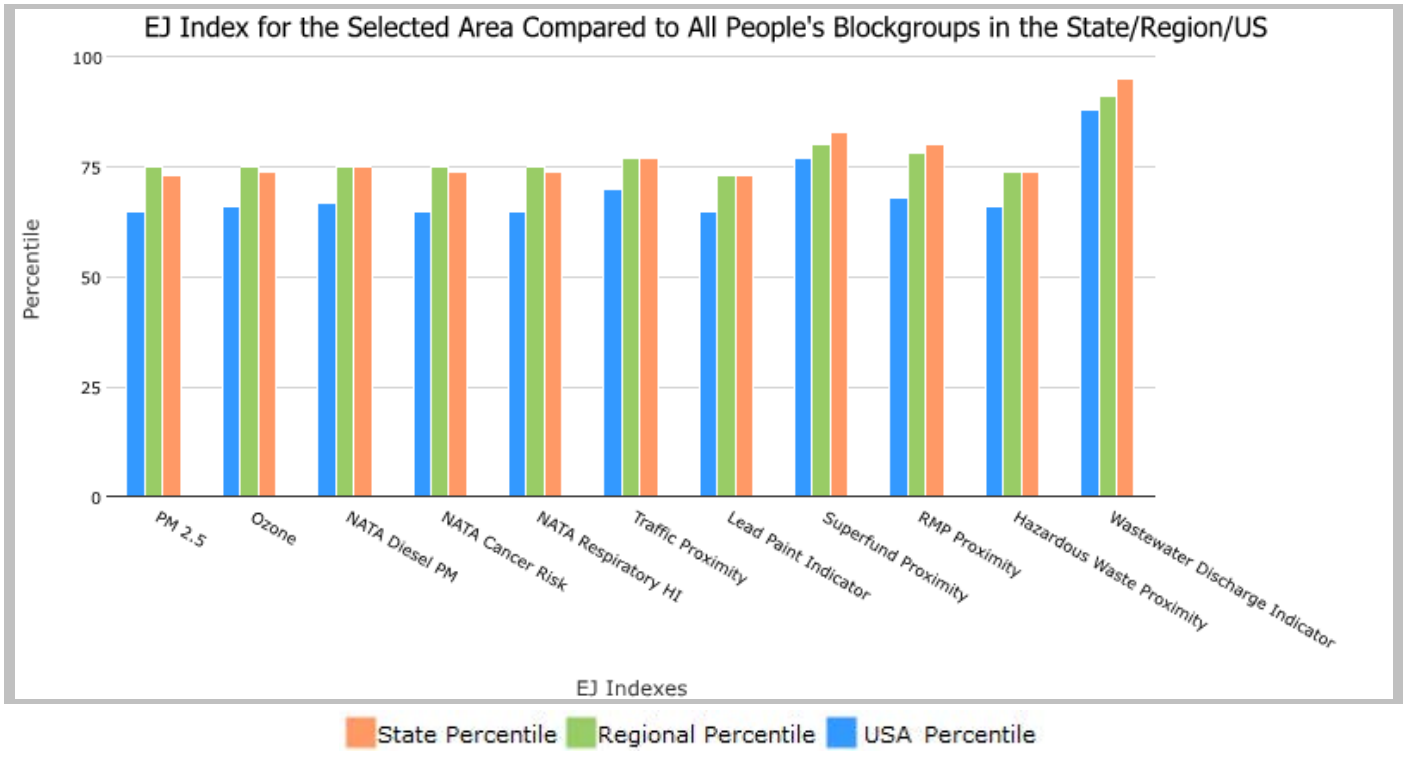
1 miles Ring around the Area, VIRGINIA, EPA Region 3

Approximate Population: 5,057

Input Area (sq. miles): 4.32

MCHF Trail Expansion (The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	73	75	65
EJ Index for Ozone	74	75	66
EJ Index for NATA* Diesel PM	75	75	67
EJ Index for NATA* Air Toxics Cancer Risk	74	75	65
EJ Index for NATA* Respiratory Hazard Index	74	75	65
EJ Index for Traffic Proximity and Volume	77	77	70
EJ Index for Lead Paint Indicator	73	73	65
EJ Index for Superfund Proximity	83	80	77
EJ Index for RMP Proximity	80	78	68
EJ Index for Hazardous Waste Proximity	74	74	66
EJ Index for Wastewater Discharge Indicator	95	91	88



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

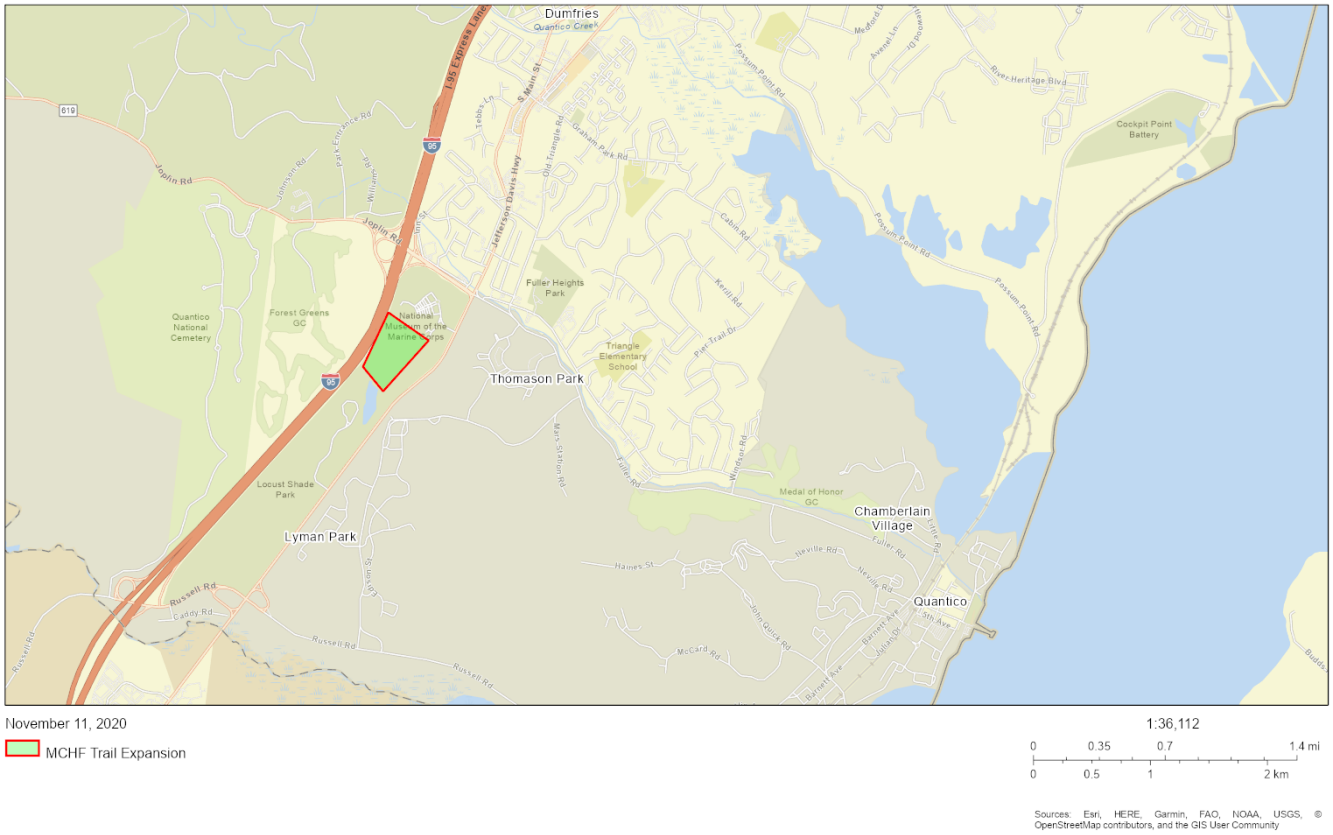
EJSCREEN Report (Version 2019)

1 miles Ring around the Area, VIRGINIA, EPA Region 3

Approximate Population: 5,057

Input Area (sq. miles): 4.32

MCHF Trail Expansion (The study area contains 1 blockgroup(s) with zero population.)



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJSCREEN Report (Version 2019)

1 miles Ring around the Area, VIRGINIA, EPA Region 3

Approximate Population: 5,057

Input Area (sq. miles): 4.32

MCHF Trail Expansion (The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m^3)	7.91	7.79	55	8.64	25	8.3	36
Ozone (ppb)	43.2	42.5	67	44.9	27	43	46
NATA* Diesel PM (µg/m^3)	0.461	0.425	63	0.477	50-60th	0.479	50-60th
NATA* Cancer Risk (lifetime risk per million)	32	31	58	31	50-60th	32	50-60th
NATA* Respiratory Hazard Index	0.44	0.41	67	0.4	60-70th	0.44	50-60th
Traffic Proximity and Volume (daily traffic count/distance to road)	620	570	76	640	72	750	72
Lead Paint Indicator (% Pre-1960 Housing)	0.12	0.21	50	0.36	30	0.28	42
Superfund Proximity (site count/km distance)	0.22	0.11	92	0.15	84	0.13	87
RMP Proximity (facility count/km distance)	0.37	0.38	72	0.62	59	0.74	53
Hazardous Waste Proximity (facility count/km distance)	0.37	0.66	59	1.3	44	4	47
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0.016	0.8	92	30	80	14	82
Demographic Indicators							
Demographic Index	40%	32%	72	30%	74	36%	64
Minority Population	53%	37%	72	32%	76	39%	69
Low Income Population	27%	26%	58	28%	56	33%	46
Linguistically Isolated Population	1%	3%	61	3%	64	4%	52
Population With Less Than High School Education	10%	11%	56	11%	57	13%	52
Population Under 5 years of age	16%	6%	98	6%	98	6%	98
Population over 64 years of age	3%	14%	7	16%	4	15%	5

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice