

ENVIRONMENTAL ASSESSMENT
FOR
THE TRAINING AREA 12B BOUNDARY ADJUSTMENT
AT
MARINE CORPS BASE QUANTICO,
PRINCE WILLIAM AND
STAFFORD COUNTIES, VIRGINIA



National Environmental Policy Act (NEPA) Coordination Program,
Environmental Planning Section,
Natural Resources and Environmental Affairs Branch
Installation and Environment Division
Marine Corps Base Quantico, Virginia

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Proposed Agency Action: Training Area 12B Boundary Adjustment.
Marine Corps Base Quantico, Virginia

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Abstract: This Environmental Assessment is intended to meet NEPA requirements to establish a new boundary for TA12B to include a .35 mile firebreak at Marine Corps Base Quantico (MCBQ), Virginia. The No Action Alternative (Alternative A) and the Action Alternative (Alternative B) were evaluated. Alternative A would have no adverse effects on cultural/natural resources or the human environment as the status quo would be maintained.

Alternative B - The Training Area (TA) 12B adjustment would cause no significant impacts to land use, water resources, biological resources, air quality, noise, infrastructure, traffic, socioeconomics, or hazardous waste issues. Temporary water quality impacts from soil disturbances will be mitigated through the implementation of Best Management Practices (BMPs) per the Virginia BMP Field Guide (2009) and the Virginia BMPs For Water Quality Technical Manual (2011) for Forestry Management and the Virginia Erosion and Sediment Control Handbook (1992). The tree clearing will require installation of proper erosion and sediment control (E&SC) measures (such as proper silt fence and storm drain inlets) prior to the onset of land disturbing activities.

Alternative B is the preferred action and, if the stated mitigation measures are executed, would not have significant impacts on human health and the environment.

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1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

This environmental assessment (EA) has been prepared pursuant to the National Environmental Policy Act (NEPA) of 1969; regulations of the Council on Environmental Quality (CEQ) 40 C.F.R. parts 1500-1508; and Marine Corps Order (MCO) P5090.2A Ch. 3, which documents the US Marine Corps' (USMC) internal operating instructions on how to implement NEPA. This EA is intended to meet NEPA requirements for the TA12B Boundary Re-adjustment at Marine Corps Base Quantico (MCBQ).

CEQ regulations for implementing NEPA (40 C.F.R. part 1500) require documentation that succinctly describes the environment of the area or areas potentially affected by the alternatives being considered under the proposed action, and discusses the impacts in proportion to their significance.

This EA also satisfies 36 C.F.R. part 800.6(a) which states that a federal agency when presented with the potential of an adverse effect as a result of its undertaking must "develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic properties."

1.1 Background

MCBQ is proposing to re-adjust the boundary of Training Area (TA) 12B. The revision of the boundary will include a .35 mile, 50 foot (ft.) wide firebreak between North Branch and an existing trail that would connect to SR-618. There would be a 10 ft. road constructed within the firebreak that would be used by the Natural Resources and Environmental Affairs (NREA) Forestry Program strictly for firefighting purposes. Both the road and the firebreak would be discontinued on both sides North Branch to protect riverine wetlands.

1.2 Need for the Proposed Action

The need for the proposed action is to maximize usage of training area infrastructure while also improving the safety of Marines. Currently, the Range 14 series complex (Ranges 14, 14C, 14D, 14E, 14F and MA-14), Weapons Training Battalion (WTBN) and adjacent Federal Bureau of Investigation (F.B.I.) Academy ranges are utilized for a combined total of 680 days each year. Munitions are fired from these locations into the portion of the non-dudged impact area where TA12A and TA12B are located. For safety reasons, TA12A and TA12B are closed when these ranges are

being utilized for training. Adjusting the training area boundary would eliminate any impacts to due to the presence of Surface Danger Zones (SDZs) in this location. This will allow TA12B to be utilized for maneuver training while the Range 14 series, the WTBN and F.B.I. ranges are being utilized by Marine Corps personnel as well as maximizing by as much as possible, the use of all TAs on the base. The adjustment would also allow for additional possible recreational opportunities such as hunting in the adjusted TA. It will also allow NREA Forestry Program personnel to address any forest fires that may occur as soon as possible.

The adjustment follows two trail segments. One trail segment is roughly .8 miles, originates from MCB-1 and terminates at North Branch. A second segment originates from SR-618 and terminates at an open area .16 miles to the north. There are no features connecting these segments and thus a continuous boundary is not available. MCBQ proposes adding a firebreak to connect these two segments and form a complete boundary that can easily be delineated. Signage along the firebreak and boundary would alert both Marines and hunters of the locations of TA12A and TA12B while also alerting both parties that they are entering a live-fire area.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative A - No Action

Under the no action alternative, the current conditions would remain the same. TA12B would maintain its current boundary and remain impacted by SDZs. There would not be a firebreak and trail added to serve as a connection from North Branch to SR-618.

2.2 Alternative B - TA12B Boundary Adjustment.

Under this alternative a new forestry road and firebreak would be established to enhance training. The TA12B boundary would be re-aligned and maneuver training would now be allowed within the TA. Impacts due to SDZs would be eliminated. The road included within the firebreak would form a continuous connection between North Branch, SR-618 and a clear, delineated training area boundary from MCB-1 to SR-618. There would be signs installed alerting Marines and others that they are approaching the boundary with TA12A and TA12B.

Proposed TA 12B Adjustment

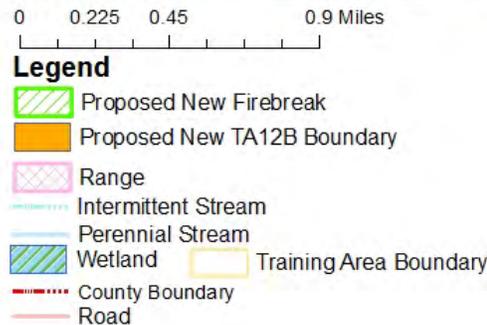
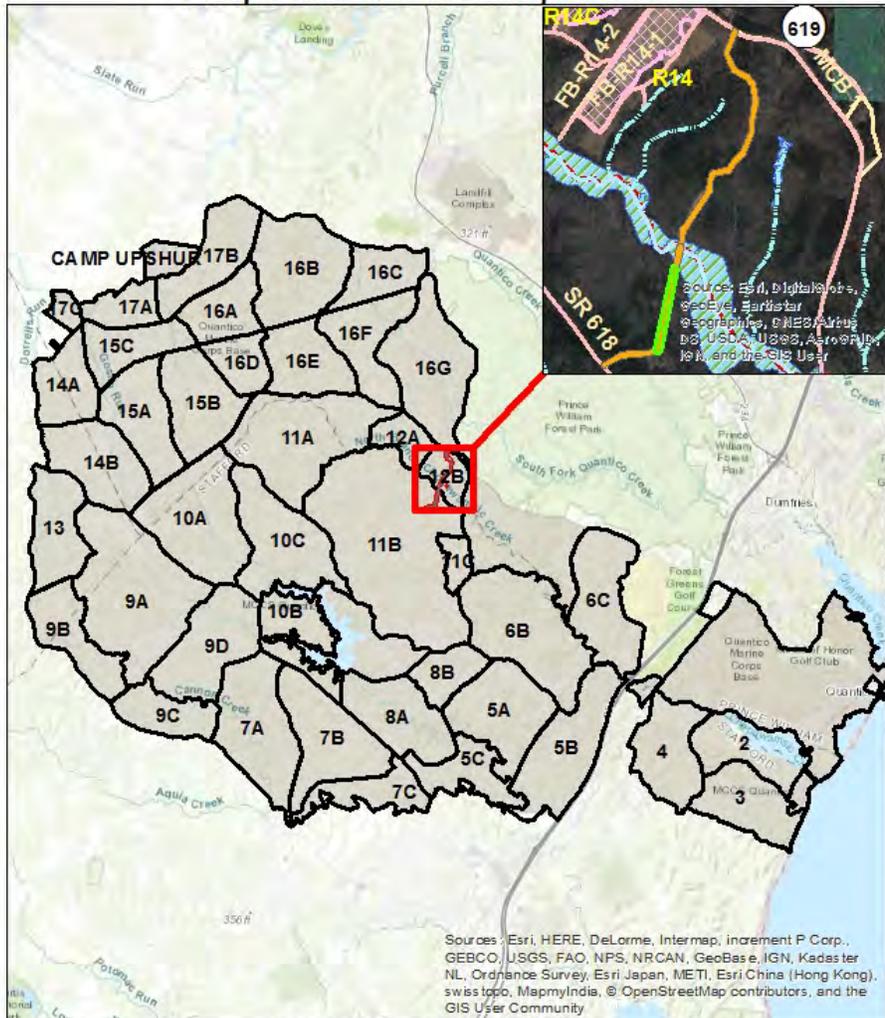
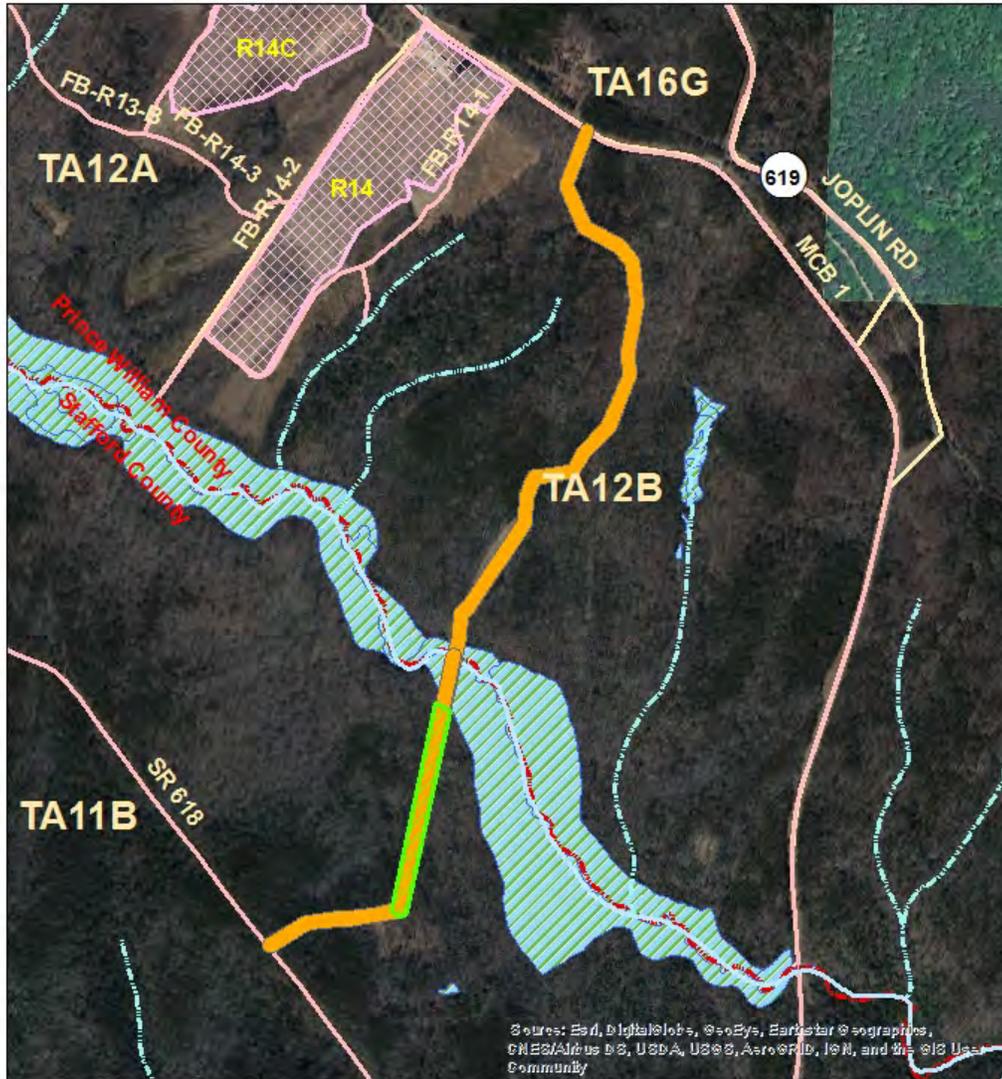
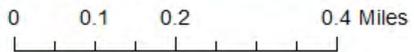


Figure 2.1

Proposed TA 12B Adjustment



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Proposed New Firebreak
- Proposed New TA12B Boundary
- Range
- Intermittent Stream
- Perennial Stream
- Wetland
- Training Area Boundary
- County Boundary
- Road

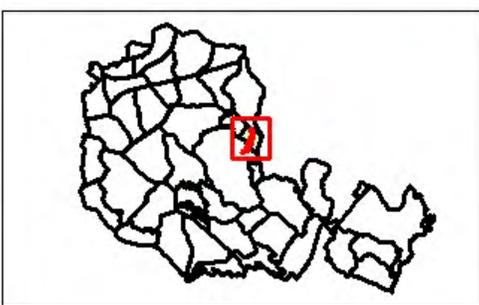


Figure 2.2

3.0 Existing Environmental Conditions

CEQ regulations for implementing NEPA (40 C.F.R. part 1500) require documentation that succinctly describes the environment of the area or areas potentially affected by the alternatives being considered under the proposed action, and discusses the impacts in proportion to their significance.

Both alternatives under consideration for this proposal are located within TA12B on the Westside at MCBQ, in Prince William and Stafford Counties, Virginia. The existing environmental conditions described in this section will be the same for both alternatives.

3.1 Land Use

MCBQ is divided into two areas; Mainside, 6,000 acres east of Interstate 95 and U.S. Route 1, and the Westside (Guadalcanal), 53,200 acres west of the same highways. Currently, TA12B comprises a total of 386.36 acres which includes 3.12 miles of roads and trails. It also includes 30.2 acres of the Range 14 series. Range 14 is utilized as an automated infantry squad battle course. The goal of the range is to train and test infantry squads on the necessary skills to conduct tactical movement techniques, detect, identify, engage, and defeat stationary and moving infantry and armored targets in a tactical setting. The ranges consist of one moving target, six stationary armor targets, six moving infantry targets, 20 stationary infantry targets, five machine gun and operations bunkers, and two trench obstacles. The TA is also used as both a maneuver and training area and also contains a land navigation (LANDNAV) course. Currently, when Range 14 is being utilized, TA12A and TA12B are closed to any additional training. The area is heavily forested and is bounded by TA12A to the west, TA11B and North Branch to the south, TA16G to the north while also comprising a portion of the eastern boundary of the base.

3.1.1 Geology

The proposed action would occur within the Westside portion of the base, which lies in the Coastal Plain geologic region. The region consists of Mesozoic and Cenozoic marine sediments, some consolidated into sandstone and marl. The project area is specifically within the Patapsco formation, which dates to the Cretaceous Period at the end of the Mesozoic Era. It is comprised of sand and clay from shallow aquatic deposits, which cover Pre-Cambrian crystalline rock with a thickness of

approximately 150 feet. These deposits are generally unconsolidated.

3.1.2 Soils

There are several soil types located within the proposed TA12B Firebreak Adjustment footprint. The most dominant soil types within the footprint are Dogue Loam (DoB) 2-6% slopes, Meadowville Silt Loam (Me), Worsham Loam (Wr), and Nason Silt Loam (NaC2) 6-15% slopes. DoB is found south of North Branch and comprises 37.2% of the soils with the proposed action footprint. These soils are associated with marine terraces, are moderately well-drained, and have a low-coefficient of runoff. Worsham Loam (Wr) is a poorly drained, hydric soil that is located in the central portion of the proposed firebreak and constitutes 16% of the footprint. The soil has a very high coefficient of runoff but it is not steep-sloped and is not prone to ponding or flooding. Me comprises 25.7% of the proposed action footprint and is most dominant in the far southern portion. Me is a well-drained soil with a low coefficient of runoff and is associated with drainageways. NaC2, though steeply-sloped, has a moderate runoff coefficient and is well-drained. Like Me, it is dominant within the southern portion of the footprint. It makes up 13.0% of the footprint. Other soil types found in small locations are the Manor Silt Loam (MaD) 6-15% slopes, Nason Silty Clay Loam (NcC3) 6-10% slopes, (Wh) Wehadkee Very Fine Sandy Loam, 0-2% Slopes, and the Worsham Loam (Wr).

3.1.3 Topography

The terrain of the proposed project area consists of an undisturbed, forested landscape. The topography of the proposed action footprint has a steep gradient. From the northern terminus at North Branch, the topography increases sharply from 230 ft. to 292 ft. at the southern terminus of the footprint at SR-618. The topography on the proposed action footprint is summarized in Figure 3.1.

Proposed TA 12B Adjustment - Topographical Profile



0 0.1 0.2 0.4 Miles

Legend

-  Contour Lines - 10 ft.
-  Proposed New Firebreak
-  Proposed New TA12B Boundary
-  Range
-  Intermittent Stream
-  Perennial Stream
-  Wetland
-  Training Area Boundary
-  County Boundary
-  Road



Figure 3.1

3.2 Water Resources

Due to the rugged upper Coastal Plain topography and proximity to various water bodies, activities conducted on the base could potentially affect the water resources of the area.

Activities in surface waters (including streams) and wetlands are regulated under numerous federal laws, regulations, and policies. The proposed action would be bound by the following:

- The Clean Water Act (CWA), 33 U.S.C. §1344 (Section 404) requires a permit from the US Army Corps of Engineers for the discharge of dredged or fill material in to "waters of the US", a term that includes most streams, wetlands, and ponds.
- Executive Order (E.O.) 11990, *Protection of Wetlands*, requires federal agencies to take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.
- Department of the Navy "no net loss" policy, for implementing E.O. 11990.

The Commonwealth of Virginia also regulates streams and wetlands that are considered "waters of the state" through a number of laws and provisions. Any action that requires a federal Section 404 permit may also require a water quality certification per CWA 33 U.S.C. §1341 (Section 401) from the Virginia Department of Environmental Quality (VDEQ) and, under certain circumstances, the Virginia Marine Resources Commission.

In 1988, Virginia enacted the Chesapeake Bay Preservation Act (CBPA), Code of Virginia, Title 10.1-Conservation, Chapter 21. This Act established a cooperative program between state and local governments to improve water quality in the Bay by requiring resource management practices in the use and development of environmentally sensitive land features. As defined by the CBPA, Resource Protection Areas (RPA) are buffer zones that include all areas within 100 feet of a tidal wetland, contiguous non-tidal wetlands, or perennial streams. Other areas are designated as Resource Management Areas (RMA). The RMA includes the 100-year floodplain, highly erodible soils, highly permeable soils, and non-tidal wetlands that are not part of an RPA. The Department of Defense (DoD) is a signatory to an agreement supporting the CBPA and its associated regulations and will comply to the maximum extent possible consistent with the military mission and budget constraints.

3.2.1 Surface Waters

The North Branch of Chopawamsic Creek (commonly referred to as North Branch) is the major waterway that divides the northern and southern portions of the proposed 12B boundary, although it will not be part of the footprint. The northern terminus of the .35 mile firebreak will occur at the point where the slope steepens before reaching North Branch. North Branch flows near the far northern portion of the base and forms most of the boundary with Prince William and Stafford Counties on the Westside. It has many wetlands, and flows eastward until reaching Breckenridge Reservoir.

3.2.2 Wetlands

There are several acres of wetlands along North Branch. North Branch is not a component of the footprint however, as the proposed firebreak and forestry road will terminate at the steepest point of the slope on the south side of the creek.

3.2.3 Floodplains

Executive Order 11988 (1977), *Floodplain Management*, requires federal agencies to take action to minimize occupancy and modification of floodplains. The order specifically prohibits federal agencies from funding construction in the 100-year floodplain unless no practicable alternative exists.

The area of the proposed .35 mile firebreak is depicted on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) number 51153C0300D, panel 300 of 330. The FIRM shows the proposed firebreak outside of Flood Zone A which is an area outside of the 100-year floodplain (See Figure 3.2 and 3.3).

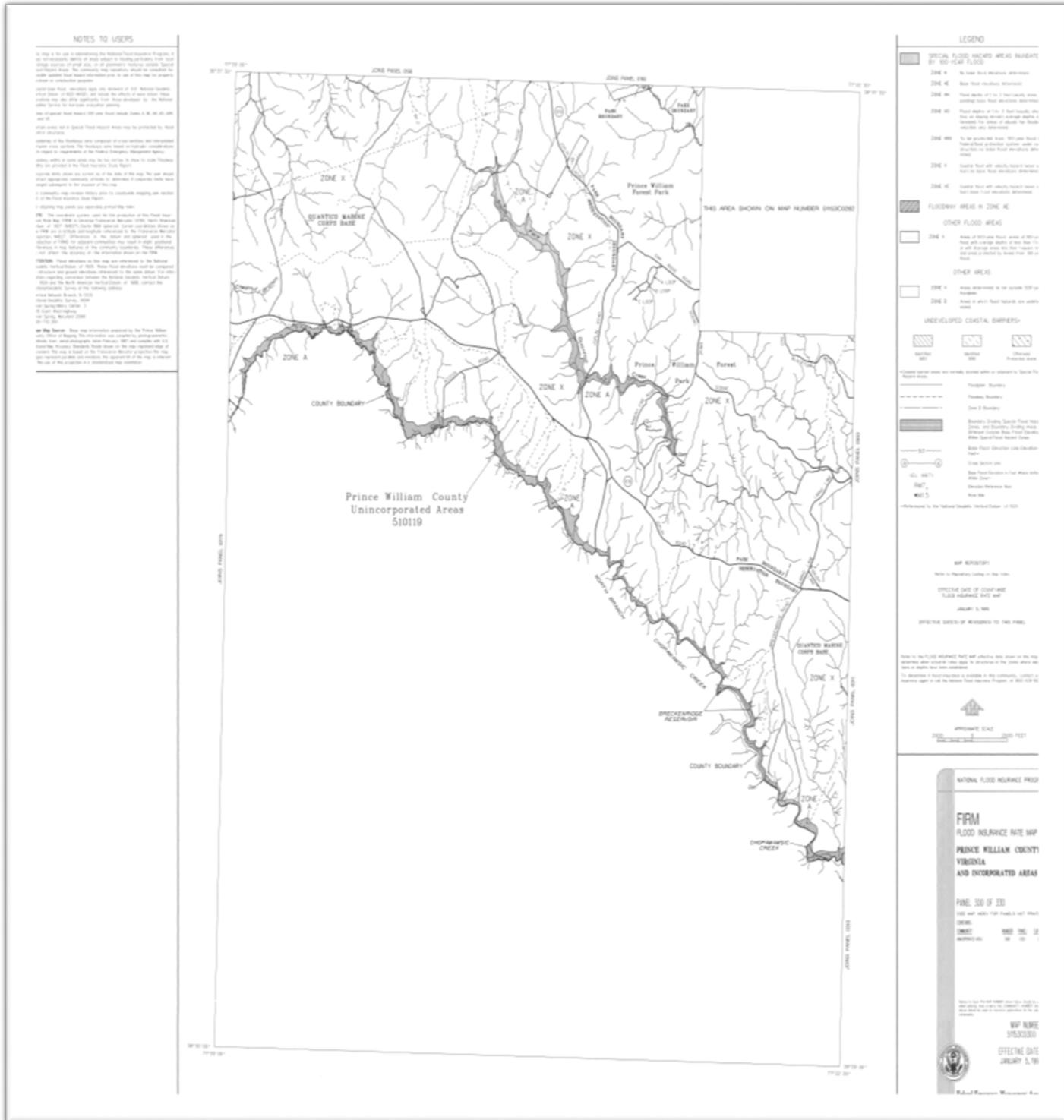


Figure 3.2

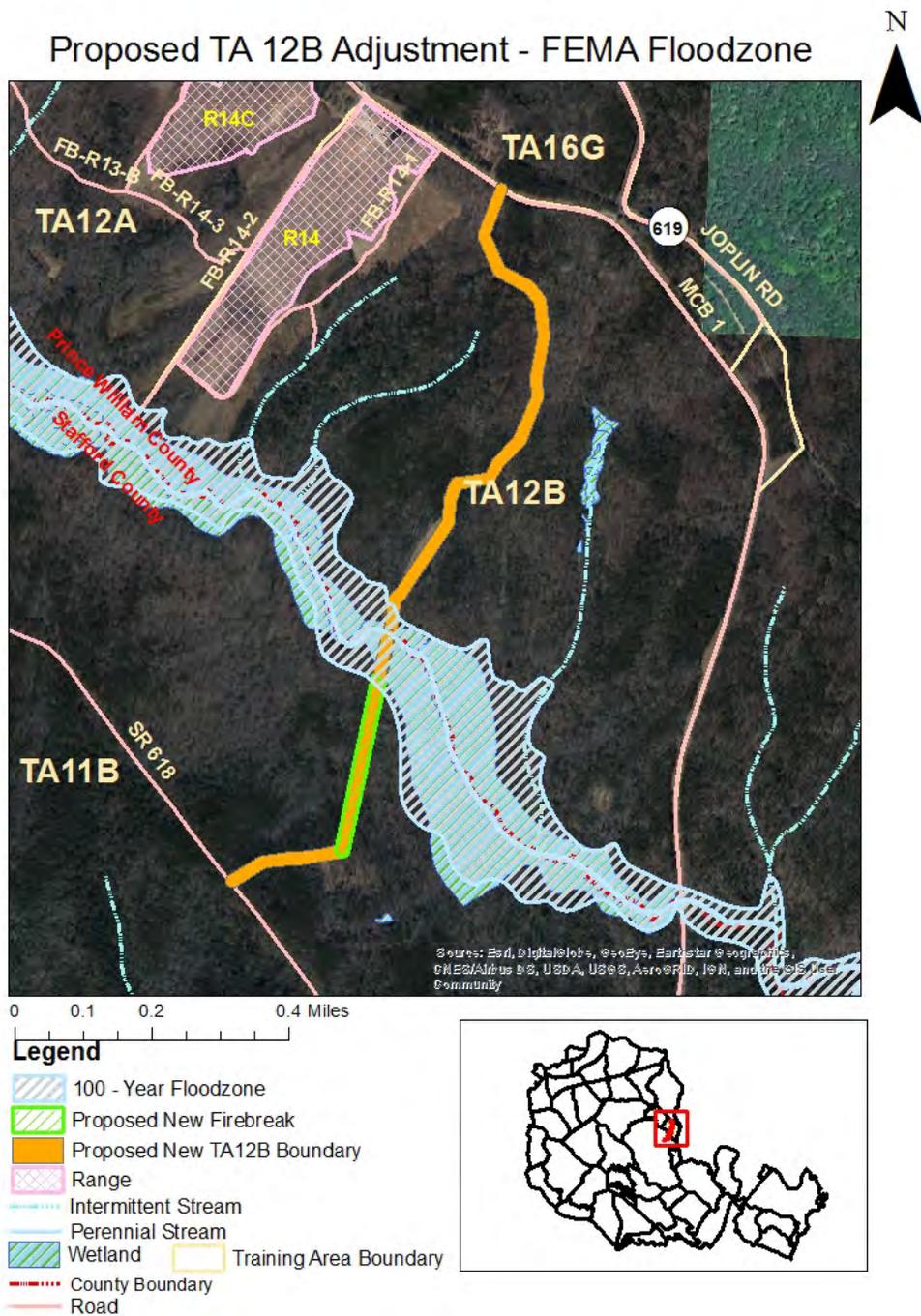


Figure 3.3

3.2.4 Groundwater

The Potomac Aquifer extends from New Jersey in the north, to North Carolina in the south, and eastward under the Chesapeake Bay. The MCBQ lies within this aquifer. In this aquifer water can be reached at depths between 200 and 350 feet. One of the

largest surface recharge areas for the Potomac Aquifer exists in Stafford County, near Interstate 95. No comprehensive studies of groundwater resources have been conducted at MCBQ to date.

3.2.5 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. §1451, et seq., as amended) provides guidance to states, in cooperation with federal and local agencies, for developing land and water use programs in coastal zones. The CZMA states that "the boundary of a State's coastal zone must exclude lands owned, leased, held in trust or whose use is otherwise by law subject solely to the discretion of the Federal Government, its officers, or agents" [16 U.S.C. §1453 (1)]. According to this statute, MCBQ is not within Virginia's coastal zone.

The CZMA 16 U.S.C. §1456 (Section 307) covers coordination and cooperation issues. Section 307 mandates that federal projects that affect land uses, water uses, or other coastal resources of a state's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of that state's federally-approved coastal management plan. If a proposed federal project or activity affects coastal resources or uses beyond the boundaries of the federal property, Section 307 of the CZMA applies.

The Commonwealth of Virginia has developed and implemented a federally-approved coastal resources management program (CRMP) describing current coastal legislation and enforceable policies. The Virginia CRMP has nine enforceable policies which include: wetlands management, fisheries management, subaqueous lands management, dune management, non-point source pollution control, point source pollution control, shoreline sanitation, air pollution control, and coastal lands management.

3.2.6 Stormwater

The proposed action footprint is located within the Chopawamsic Creek Watershed. The Chopawamsic Creek Watershed occupies a total of 20,461 acres. The Chopawamsic Creek Watershed is part of the Potomac River Watershed which occupies a total of 9,388,800 acres across the states of Maryland, Pennsylvania, Virginia, and West Virginia. The location of the proposed action footprint within both of these watersheds is displayed in Figures 3.3 and 3.4.

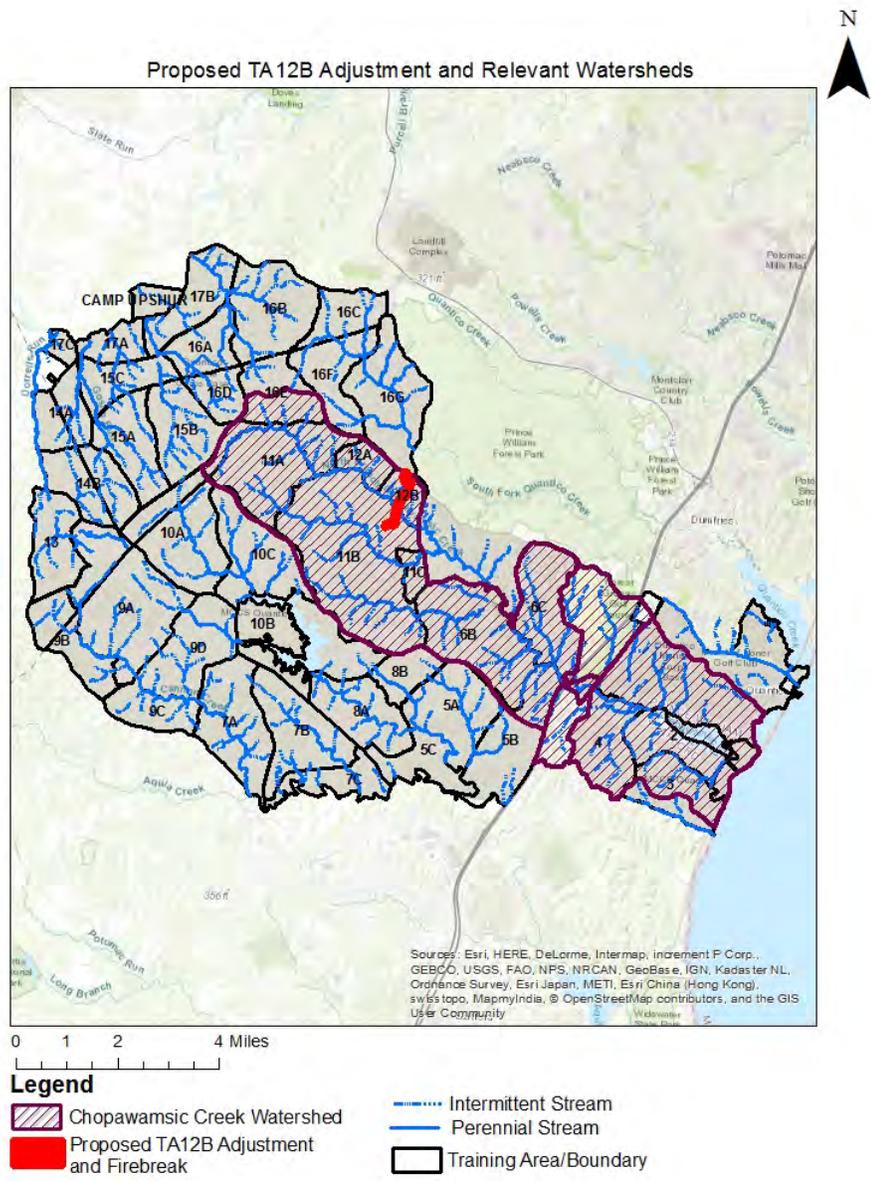


Figure 3.3

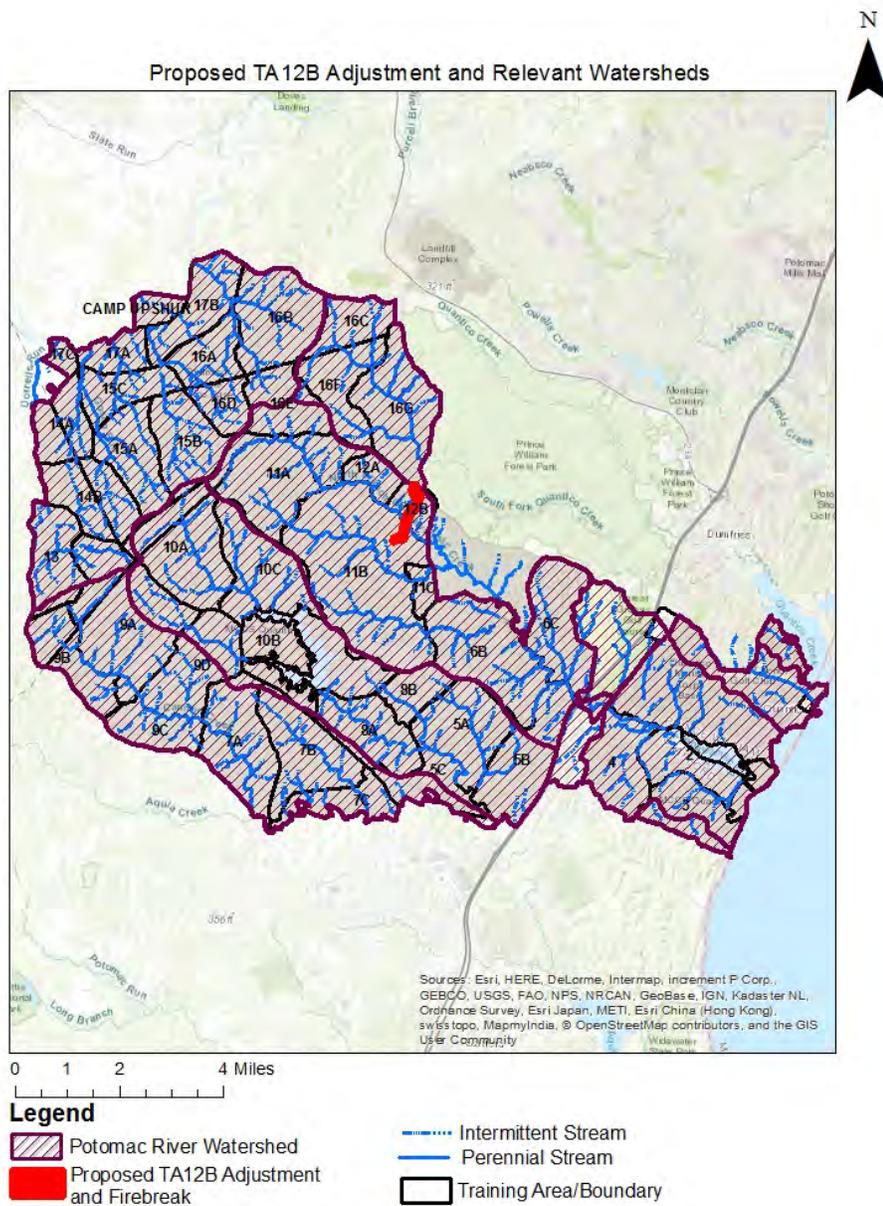


Figure 3.4

3.3 Biological Resources

3.3.1 Vegetation

The proposed action footprint consists of deciduous vegetation as does much of the surrounding landscape. The areas near the northern portion of the footprint consists of a steep terrain which has riverine wetlands located at the base along North Branch.

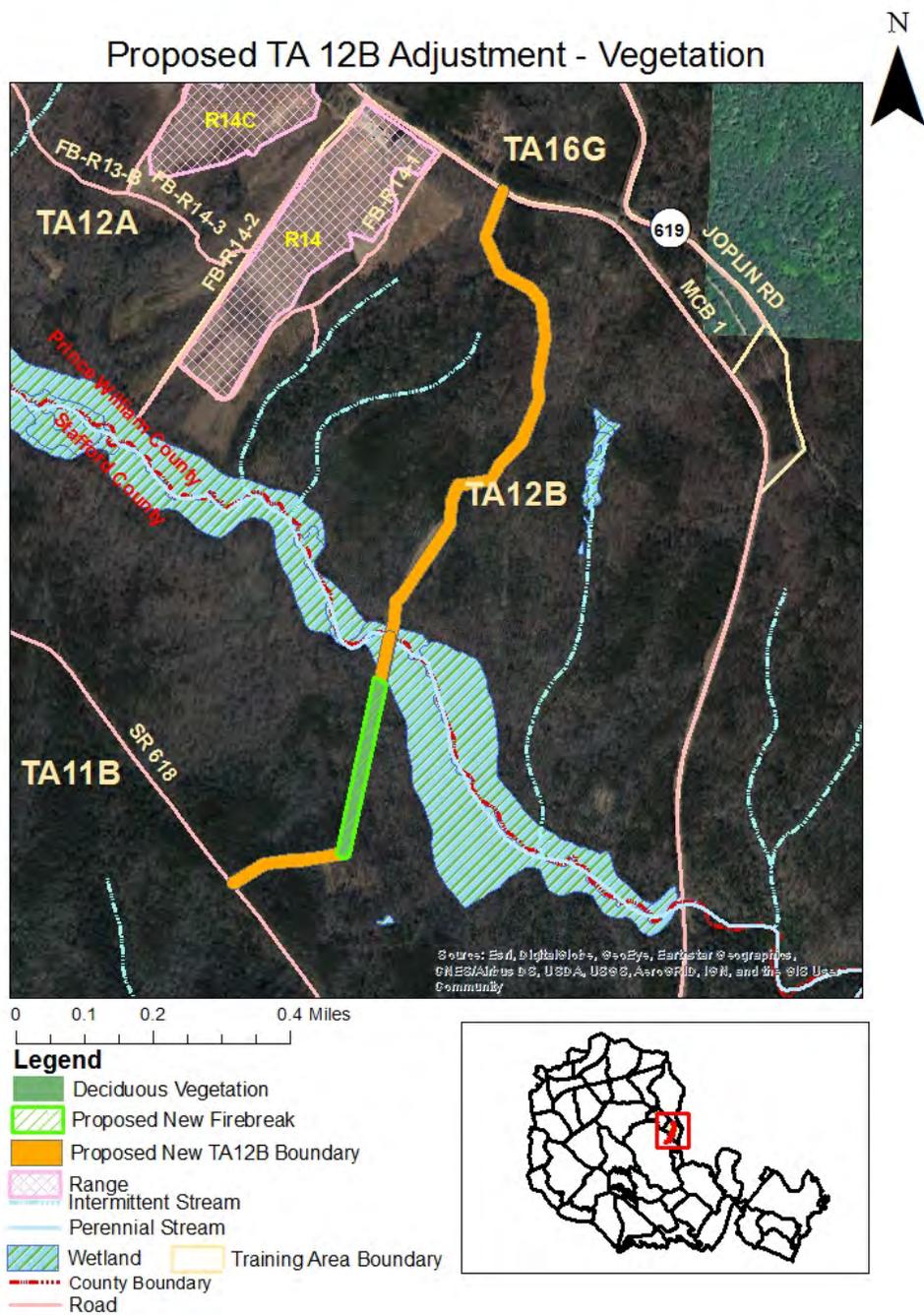


Figure 3.5

3.3.2 Wildlife

The base supports a wide variety of both game and non-game species and a diversity of wildlife habitat is available. Game species include white-tailed deer, wild turkey, gray squirrel, cottontail rabbit and bobwhite quail. Non-game species include

resident and migratory songbirds, raptors, and various reptiles, amphibians, and insects.

Migratory birds utilize a variety of habitats available throughout MCBQ including forestland, grassland, wetland, and riparian corridors.

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §701-12) protects all species covered by the four migratory bird treaties the United States signed with Canada, Mexico, Japan, and Russia. The MBTA prohibits taking (e.g., pursuing, hunting, shooting, wounding, trapping, capturing, or collecting, or attempting to pursue, hunt, shoot, wound, trap, capture, or collect, intentionally or unintentionally), killing, or possessing of migratory birds (including parts, feathers, nests, and eggs) unless permitted by the Secretary of the Interior. The United States Fish and Wildlife Service (USFWS) currently recognizes 832 species of migratory birds.

Per Executive Order 13186, Responsibilities of Federal Agencies to Migratory Birds (2001), the DoD and USFWS set forth a Memorandum of Understanding (MOU) to promote the conservation of migratory birds and their habitats. Habitat that would be considered critical to the natural history and/or life cycle of migratory birds is not located within the proposed firebreak footprint.

Bald eagles, which are protected under the MBTA, are discussed within the threatened and endangered species/species of concern portion (3.3.3) of this EA.

3.3.3 Threatened and Endangered Species

The Endangered Species Act (ESA), 16 U.S.C. §1531 et seq., requires federal agencies to ensure that their actions will not jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of its critical habitat.

Two plant species on MCBQ are federally-listed as threatened or endangered species. These include Harperella (*Ptilimnium nodosum*) and the small whorled pogonia (*Isotria medeoloides*).

Harperella is a federally-listed endangered plant species native to riverine habitats. This plant is only found in 13 areas ranging from Maryland to Georgia. The Harperella and its habitat are not found within the proposed action footprint.

The small whorled pogonia (SWP) is a federally-listed threatened species. The SWP is a perennial plant that generally occurs on gentle to moderate slopes with eastern or northern exposures and prefers acidic sandy loam soils with low nutrient content. The SWP and SWP habitat are not found within the proposed action footprint.

Two animal species found on portions of MCBQ are federally-listed as endangered. They are the dwarf wedge mussel (*Alasmidonta heterodon*) and the Indiana bat (*Myotis sodalists*).

The dwarf wedge mussel is a small bivalve that lives in freshwater streams and requires highly oxygenated and silt-free waters. The dwarf wedge mussel is not located within the proposed TA12B footprint.

The Indiana bat can be found over most of the eastern half of the United States. The bat spends winter hibernating in caves and occasionally in abandoned mines (hibernacula). During summer, the bats prefer to roost under the peeling bark of dead and dying trees.

The northern long-eared (*Myotis septentrionalis*) (NLEB) is also found on MCBQ. The NLEB is federally-listed as threatened. The bat spends winter hibernating in caves and mines (hibernacula). They prefer roosting sites with constant temperatures, high humidity, and no air currents. In summer, they prefer roosts under tree bark, in cavities or in crevices of both live and dead trees, and rarely in man-made structures such as barns or sheds (50 C.F.R. part 17). Both the Indiana Bat and NLEB were detected on MCBQ in 2016. However, there are no known Indiana bat or NLEB hibernacula on MCBQ.

The little brown bat (*Myotis lucigus*) and tricolored bat (*Perymyotis subflavus*) are listed as state-endangered. Both species were detected on base during 2016.

The bald eagle, *Haliaeetus leucocephalus*, was removed from the Federal List of Endangered and Threatened Wildlife and Plants in 2007 due to population recovery. The bald eagle is still afforded federal protection under the MBTA (see Section 3.3.2) and the Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended (16 U.S.C. §668-668d, 54 Stat. 250), and is listed as a species of concern in the USFWS Birds of Conservation Concern, 2008. The BGEPA requires a buffer of 660 feet around a nesting site. No nesting sites have been observed in the project area.

Marine Corps Order P5090.2A, Ch. 3 directs the USMC to comply with environmental requirements, protect the environment and human health, and enhance and sustain mission readiness, to include cooperating with the Commonwealth of Virginia to protect Virginia-listed rare species and to provide consideration of state-listed species during the NEPA process.

The Virginia Piedmont waterboatman, *Sigara depressa*, and the brook floater, *Alasmidonta varicose*, are two Virginia-listed endangered faunal species. Both species are water dependant. The Virginia Piedmont waterboatman is an insect that inhabits ponds and extremely slow moving streams. The brook floater is a bivalve that is found among boulders within gravel or sand.

3.4 Cultural Resources

Implementation of the proposed action must comply with the National Historic Preservation Act (NHPA) of 1966, (54 U.S.C. §300101 et seq.). Under the NHPA, consideration of historic preservation issues must be integrated into the early planning stages of project planning by federal agencies. Under NHPA 36 C.F.R. part 800 (Section 106), a federal agency is required to account for the effects of the proposed action on any district, site, building, structure, or object that is included or eligible for inclusion in the National Register of Historic Places (NRHP), prior to the expenditure of funds on the action. Under NHPA 54 U.S.C. §§306101(a) and 306102 (Section 110), the identification and evaluation of any cultural resources on federal property that meet the eligibility criteria of the NRHP is required.

Architectural historians with the U.S. Army Construction Engineering Research Laboratory (USCERL) conducted a survey of Quantico buildings between 1992 and 1994 (USCERL 1994). They identified significant historic buildings and landscapes on the base. Seven themes forming the historic context for the subsequently nominated NRHP QMCBHD include: First Permanent Construction, Aviation, Education, Industrial, Naval Clinic, African American Barracks, and Lustron Housing.

There are no cultural resource sites or NRHP sites located within the proposed action footprint.

3.5 Air Quality

National Ambient Air Quality Standards

The U.S. Environmental Protection Agency (EPA) defines ambient air as "that portion of the atmosphere, external to buildings, to which the general public has access" (40 C.F.R. part 50). In compliance with the Clean Air Act (CAA) (42 U.S.C. §7401 et seq.) the EPA promulgated the National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM), ozone, nitrogen dioxide (NO_x), and lead. States are required to develop a State Implementation Plan (SIP) to attain and maintain the NAAQS, with specific requirements for areas that do not meet the NAAQS, called nonattainment areas. The location of the proposed action is within two counties that are either within or adjacent to the Metropolitan Washington (DC) Region. Prince William County is designated as a marginal non-attainment area for the 8- hour ozone NAAQS whereas Stafford County is in attainment. Both Prince William and Stafford Counties are designated as being in attainment for PM_{2.5}. NO_x and volatile organic compounds (VOCs) are precursors to ozone formation and are regulated to control ozone pollution.

General Conformity

To ensure that actions taken by federal agencies in a nonattainment area do not interfere with a state's plan for attainment of the NAAQS, EPA promulgated the General Conformity rule [CAA section 176(c)(4)]. The General Conformity rule requires federal actions, whose emissions exceed *de minimis* thresholds of criteria pollutants and their precursors, to undergo a Conformity Determination. A Conformity Determination is a detailed analysis the action's impact on regional air quality. *De minimis* levels in the DC region are:

- NO_x: 100 tons per year (tpy)
- VOC: 50 tpy
- PM_{2.5}: 100 tpy

An Applicability Analysis is the first step in the Conformity process, used to determine if a full Conformity Determination must support the action. Proposed actions may be exempt from a Conformity Determination by two means:

1. If EPA identifies the action in 40 C.F.R. part 93.153(c)(2) as resulting in no emissions increase or an increase that is clearly *de minimis*.

2. If emissions from the action, including construction and post construction activities, are calculated and determined to fall below the *de minimis* emission rates.

If the Conformity Analysis indicates that the action falls into one of the listed actions, or the emissions are below *de minimis* thresholds, no further action is necessary. For actions that exceed *de minimis* thresholds and are not exempt, a Conformity Determination is required.

A Conformity Determination requires detailed direct and indirect emissions estimates, dispersion modeling analysis, and mitigation of air quality impacts, and an opportunity for public comment prior to approval.

Virginia SIP Regulations

Virginia's SIP includes a number of broadly applicable regulations as well as process-specific regulations for existing sources intended to ensure continued progress towards attainment of all NAAQS.

New Source Review Permitting

New Source Review (NSR) is a federally mandated program, implemented by the States, that requires construction or modification of regulated stationary sources undergo a preconstruction permitting process. NSR is used to define what equipment may be installed, pollution controls that may be required, operating parameters, and notification, recordkeeping, and reporting requirements.

The stringency of an NSR permit depends on the size of the stationary source and the region in which it is located. Permitting programs exist for both major and minor sources located in NAAQS attainment or nonattainment areas.

- Minor New Source Review (Minor NSR). Minor NSR permits are required when a source does not meet the definition of a major source, but is large enough to interfere with a state's plan for attaining or maintaining the NAAQS. Minor NSR permits may also be used to limit emissions from a project that would otherwise be subject to major source permitting.
- Prevention of Significant Deterioration (PSD). PSD permits are issued for new major sources of air pollution or major

modifications to existing major sources of air pollution in a NAAQS *attainment* area. PSD permits require application of Best Available Control Technology (BACT), dispersion modeling, and public notification and comment periods.

- Nonattainment New Source Review (N-A NSR). N-A NSR permits are issued for new major sources of air pollution or major modifications to existing major sources of air pollution in a NAAQS *nonattainment* area. N-A NSR requires application of Lowest Achievable Emissions Rate (LAER) and public notification and comment periods. In addition, facilities are required to offset the potential increase in emissions with a greater reduction in actual emissions elsewhere in the region to ensure improvement of the local air quality.

A case-by-case review of each new stationary source or modification is required to determine which permitting program is applicable. Generally, NO_x from fuel combustion is the limiting pollutant at MCBQ. Since MCBQ is a major source of NO_x pollution in an ozone nonattainment area, any project that has a potential to emit (PTE) greater than 40 tpy of NO_x will be subject to N-A NSR permitting. A project with a PTE greater than 10 tpy but less than 40 tpy of NO_x will be subject to Minor NSR permitting. Projects with a PTE less than 10 tpy of NO_x are typically exempt from preconstruction permitting requirements (however, they may still be considered significant equipment in a Title V operating permit).

Title V Permitting

Generally, major sources of pollution are required to obtain federal operating permits issued under Title V of the CAA by either the EPA or the state regulatory agency. The primary purpose of a Title V permit is to improve compliance at a source by consolidating all requirements into a single document. Title V permits are reviewed and reissued on a 5 year cycle. While some changes to equipment may occur as "off-permit" changes and may be incorporated into the next permit renewal, most NSR permit actions require modification of the Title V permit within 12 months.

In the DC ozone nonattainment area, any source with a NO_x PTE greater than 100 tpy is a major source and must apply for a Title V Permit within 12 months of being designated such. The proposed project would occur in Prince William County, which is in an ozone non-attainment area, and Stafford County, which is in attainment.

The base's NO_x PTE is well above 100 tpy. The base currently operates under a Title V permit issued by the VDEQ on 2 September 2003. Renewal applications are pending.

3.5.1 Climate Change

Greenhouse Gas (GHG) reporting and permitting are the newest broad scale programs under the CAA. In 2009, the EPA determined that GHGs have a detrimental effect on human health and the environment and began developing regulatory programs to limit the emission of GHGs.

Greenhouse gases (GHG) are atmospheric compounds that contribute to the greenhouse effect. GHGs include CO₂, CH₄, and N₂O, and fluorinated gases. The greenhouse effect is a natural phenomenon that causes heat to be trapped within the lowest portion of the earth's atmosphere creating a wide range of environmental concerns referred to as climate change. Climate change is associated with rising global temperatures, sea level rise, changing weather patterns, changes to local and regional ecosystems including the potential loss of species, longer growing seasons, and shifts in plant and animal ranges. Most GHGs occur naturally within the atmosphere but scientific evidence indicates a trend of increasing global temperature over the past century due to a combination of natural occurrences and an increase in GHG emissions from human activities (Intergovernmental Panel on Climate Change, 2007).

According to the Quadrennial Defense Review Report of February 2010, the DoD has recognized that climate change will affect the DoD operating environment, roles, and missions undertaken; furthermore, adjustments due to climate change impacts on facilities and military capabilities will be necessary. The DoD has made a commitment to foster efforts to assess, adapt to, and mitigate the impacts of climate change. Specifically, the DoD has leveraged the Strategic Environmental Research and Development Program, a joint effort among the DoD, the Department of Energy, and the EPA, to develop climate change assessment tools.

GHG Reporting

In October 2009, the EPA promulgated the GHG Reporting Rule in 40 C.F.R. part 98. The rule establishes mandatory reporting requirements for facilities that fit into any of three applicability classifications.

A facility may be required to report GHG emissions if it falls into an "all-in" source category defined in 40 C.F.R. part 98.2(a)(1). One of these categories is Municipal Solid Waste (MSW) Landfills that emit more than 25,000 metric tons of carbon dioxide equivalent (CO₂e) in a year and accepted waste after 1 January 1980. The base has three MSW landfills, two of which accepted waste after 1 January 1980.

A facility may also be required to report if it falls into a second set of defined source categories and emits more than 25,000 metric tons of CO₂e in a year. The second set of categories includes production facilities outlined in 40 C.F.R. part 98.2(a)(2). The base does not operate any of these facilities.

Finally, a facility may be required to report if it does not meet either of the first two requirements, but it does operate stationary fuel combustion equipment with an aggregate rated heat input capacity of at least 30 MMBtu/hr and the facility emits more than 25,000 metric tons of CO₂e in a year from these sources. The aggregate rated heat input capacity of MCBQ is well in excess of 30 MMBtu/hr.

The base's MSW landfills and stationary fuel combustion equipment emissions are evaluated annually to determine applicability of Part 98. The most recent calculations demonstrate that, based on 2013 data, Part 98 reporting requirements do not apply to the base. As of 2013, base-wide CO₂e emissions from stationary fuel combustion equipment totaled 18,658 tons.

GHG Permitting

The NSR and Title V permitting programs apply to GHGs if a facility is subject to those programs for other pollutants. While traditional permitting thresholds for NSR and Title V technically apply to GHGs, actual application of those thresholds has been found impractical to use as thresholds for GHGs. In response, EPA has used its discretion to increase the thresholds under those programs for GHGs so that excessive GHG regulation and controls is avoided. The current threshold for significant emissions increases of GHGs is 75,000 TPY of CO₂e or more, and the Title V threshold for GHGs is 100,000 TPY of CO₂e or more. If GHG emissions are included in any NSR permit issued to MCBQ, then BACT and other NSR requirements will apply and be reflected in the MCBQ Title V permit.

On 23 June 2014, the U.S. Supreme Court issued a decision that said EPA could not require a source to obtain a PSD or Title V permit on the basis of GHG emissions alone. However, sources that must obtain PSD or Title V permits based on regulated NSR pollutants may still be required to control GHG emissions by application of BACT.

Pending further court action, a new stationary source at MCBQ may be subject to BACT for GHGs if it causes a significant emissions increase of a regulated NSR pollutant and also an emissions increase of 75,000 CO₂e or more.

3.6 Noise

Noise, often defined as unwanted sound, is one of the most common environmental issues associated with military installations. The major sources of noise at MCBQ include aircraft, artillery, small arms, explosives, vehicles, heavy equipment, and machinery.

Existing noise levels in the proposed action location comes live-fire activities occurring on the Range 14 series, WTBN, and the F.B.I. Academy. Other noise contributions come from vehicle traffic on MCB-1 and Joplin Rd. (Virginia State Route 619) which is located near the installation boundary. Other noise emanates from temporary construction activities, but this is considered to be minor.

3.7 Infrastructure, Utilities, and Transportation

3.7.1 Transportation

Currently, the proposed TA12B Adjustment footprint consists of two trail segments that are disconnected. One .8 mile segment originates from MCB-1 and terminates near North Branch. A second .16 miles segment originates from SR-618 and terminates at an open area. MCB-1 and SR-618 are currently utilized for Marine vehicle traffic.

3.8 Environmental Justice

Executive Order (EO) 12898, *Federal Actions to address Environmental Justice in Minority Populations and Low-income Populations*, was issued in 1994. This order directs agencies to address environmental and human health conditions in minority and low-income communities so as to avoid the disproportionate

placement of any adverse effects from federal policies and actions on these groups.

EO 13045, *Protection of Children from Environmental Health and Safety Risk*, was issued in 1997. This order requires agencies, to the extent permitted by law and mission, to identify and assess environmental health and safety risks that might disproportionately affect children.

3.9 Hazardous Materials/Waste

MCBQ is located in three counties. According to the United States EPA's Map of Radon Zones, Stafford County is located in Zone 1, and Prince William and Fauquier Counties are located in Zone 2. Zone 1 counties have a predicted average radon screening level greater than 4 picocuries per liter (pCi/L), and Zone 2 counties have a predicted average radon screening level between 2 and 4 pCi/L.

Many portions of MCBQ consist of historic munitions impact sites. The proposed action location is within the non-duded impact area. However, excavation activities may expose lead or other munitions constituents during excavating activities.

3.10 Solid Waste

Reports of waste generated (including recycling) including material type (construction/demolition debris, concrete, scrap metal, used oil, etc.), tons, disposal destination, and disposal cost shall be reported on the Waste Management Plan in Appendix E, and submitted to the NREA Branch within 30 days of the close of the project, and no later than October 15 of the respective calendar year to be included in annual report submissions.

Executive Order 13514, *Leadership in Environmental, Energy, and Economic Performance*, 2009, calls for meeting or exceeding fifty percent diversion of non-hazardous solid waste and construction and materials and debris from landfills by fiscal year 2015.

3.11 Recreation

The proposed action footprint is located within an area which is currently used for hunting when not being utilized by Marines for training purposes. If the Range 14 series and WTBN are being utilized for live-fire activities, both TA12A and TA12B are closed to all recreational activities.

3.12 Military Training

The proposed action footprint is located within the non-dudded impact area of MCBQ to the southeast to the Range 14 series. The entire Range 14 series complex is utilized for live-fire training roughly 200 days per year. Range 14, which consists of an automated infantry squad battle course, is utilized for live-fire activities for approximately 130 days per year. The WTBN ranges, which fire into the same impact area as the Range 14 complex, are utilized approximately 280 days each year. The adjacent F.B.I. ranges utilize the same location in the impact area as the Range 14 series complex, and is active 200 days per year. TA12B is also currently utilized for maneuver training and LANDNAV training. However, as stated earlier, these activities are restricted when the Range 14 series complex, Range 14, WTBN, and F.B.I. ranges are being utilized.

4.0 ENVIRONMENTAL CONSEQUENCES

The CEQ regulations implementing NEPA (40 C.F.R. part 1500) require discussion of the impacts in proportion to their significance within NEPA documentation. The affected environment under the proposed action alternative ranges from site-specific physical and natural resources to broader regional concerns (i.e., air quality variables, noise, infrastructure, socioeconomic conditions, community facilities and services, transportation and traffic).

This section describes the anticipated direct, indirect, and cumulative environmental impacts of the no action alternative and the TA12B adjustment

Alternative A is no action and Alternative B is the proposed TA12B adjustment.

4.1 Land Use

Impact of Alternative A: The no action alternative would not be expected to impact the current geologic, topographic, or soil conditions at MCBQ or the surrounding area.

Impact of Alternative B - Proposed TA12B Adjustment:

Alternative B would not have a significant effect on the land use within TA12B, Range 14, or the Range 14 series complex.

Neither of the alternatives would be expected to significantly change or affect the geology of the area, nor would they impact the topography of the base.

To prevent the loss or movement of soils from the disturbed areas, E&SC measures would be implemented during construction. Approximately 2.1 acres and .35 miles of land would be disturbed to implement Alternative B, however the surface of the forestry road would consist of aggregate and the firebreak will be replanted with perennial vegetation. With implementation of proper E&SC measures, the action alternative is not expected to significantly impact on-site or area soils. E&SC plans and stormwater pollution prevention plans (SWPPP) are required to be submitted to the Water Program Manager, NREA Branch, MCBQ at least 70 days prior to work starting on the project.

4.2 Water Resources

Potential impacts to the water resources were assessed based on the water quality, hydrology, surface water and wetlands, groundwater, and flooding potential in the project area.

Impact of Alternative A: It is expected that impacts to water resources would remain the same if no action is taken.

Impact of Alternative B - TA12B Adjustment: The action alternative, Alternative B, would involve the removal of 2.1 acres and .35 miles of deciduous vegetation but the footprint would not be replaced with impervious surfaces. The new surface would consist of aggregate or perennial vegetation.

It is expected that there would be no impacts to water resources if Alternative B was implemented.

Freshwater (riverine) wetlands are located adjacent to North Branch within the proposed boundary adjustment but are not included in the locations where there will be vegetation removal. The firebreak will include a 10 ft. road, however, the proposed action will not require a crossing or road over North Branch, and it will terminate at the slope that occurs before approaching the wetlands. MCBQ only requires that the new boundary be delineated to separate TA12A and 12B. The firebreak and trails will not be utilized for military traffic, so a crossing over North Branch was deemed unnecessary. NREA Forestry personnel will be utilizing the road within the firebreak and new boundary to access forest fires, however a crossing or road over North Branch was deemed unnecessary for

their purposes as well. As a result, there will be no fill or discharge into wetlands due to the implementation of Alternative B.

Potential water quality impacts from soil disturbances will be mitigated through the implementation of Best Management Practices (BMPs) per the Virginia Erosion and Sediment Control Handbook (1992), the Virginia BMP Field Guide (2009) and the Virginia BMPs For Water Quality Technical Manual for Forestry Management (2011). The tree clearing will require installation of proper erosion and sediment control (E&SC) measures (such as proper silt fence and storm drain inlets) prior to the onset of land disturbing activities (See Appendix D).

The proposed action alternative would require no fill within the 100-year floodplain, which is considered an RMA under the CBPA. None of the alternatives would adversely affect an RPA or RMA as defined under the CBPA.

The proposed construction project is consistent to the maximum extent practicable with the enforceable policies of Virginia's Coastal Management Plan. The proposed project is not expected to directly affect water resources and not expected to have adverse effects on fisheries, shorelines, subaqueous lands, dunes, or coastal lands.

Alternative B would not adversely affect wetlands, surface waters, groundwater, CBPA requirements, or floodplain areas.

4.3 Biological Resources

Impact of Alternative A: Implementation of the no action alternative, Alternative A, would not have a significant impact on vegetation, wildlife, or threatened or endangered species.

Impact of Alternative B - TA12B Adjustment: Alternative B would have no adverse effects on wildlife (including migratory birds) or wildlife habitat.

No colonies of SWP are located in the proposed project area. Suitable habitat for the SWP has not been identified in the project area (See Appendix B).

The endangered rusty-patched bumblebee has not been located on MCBQ and the probability of the species being found within the action alternative footprint is low.

In 2016, the federally-endangered Indiana bat was detected on MCBQ, however it was not detected in TA12B.

In 2016, the federally-threatened NLEB was detected in TA12B. To minimize impacts to the NLEB and federally-endangered Indiana bat, USFWS mandates that no trees greater than 3 inches diameter at breast height may be removed between 15 April and 15 September inclusive. There will be no adverse effect to the NLEB or Indiana bat (See Appendix B).

The tri-colored and little brown bats were also detected in TA12B in 2016. However, there are no known summer roosts, maternity colonies, or winter hibernacula for these species on the base according to the Virginia Department of Game and Inland Fisheries. If a maternity colony or summer roost for either species is discovered while implementing the proposed action, the project proponent must cease activities and contact NREA (See Appendix B).

The dwarf wedge mussel and Harperella are not found in, nor is there habitat for, either species in areas that would be affected by implementation of Alternative B (See Appendix B).

Due to the scope of work and the required BMPs to protect water quality, there is no potential for the action alternative to adversely affect threatened and endangered species, or habitats used by these species. The proposed TA12B adjustment would have no adverse effects on wildlife (including migratory birds) or wildlife habitat.

Timber will not be harvested from the proposed action footprint as it was determined not to be merchantable. Any timber removed to establish the firebreak will be burned in accordance with NREA Forestry Program management practices.

4.4 Cultural Resources

Impact of Alternative A: This alternative would have no impact on the NRHP-eligible QMCBHD, or other NRHP-eligible sites, or other sites of archaeological significance.

Impact of Alternative B:

The 2011 Programmatic Agreement with the Virginia State Historic Preservation Officer (SHPO) and MCBQ states that if a project is occurring outside of a historic district or viewshed, consultation may be streamlined. The proposed action occurs

outside of the QMCBHD and its viewshed. As a result, no formal consultation with the Virginia SHPO was necessary. There are no archaeological sites within the proposed action footprint (See Appendix C). The proposed TA12 Adjustment footprint would have no impacts on sites associated with the NHPA, NRHP or other archaeological sites (See Appendix C). Although the proposed action will not impact cultural resources, the following guidance must be adhered to:

For excavations permitted where there are no known archaeological sites or cemeteries, caution must still be used by contractors. There may be undisturbed soil zones encountered adjacent to or under previous disturbances/fill.

The base Archaeologist, NEPA Section (703-432-6781/0519) should be contacted immediately if artifacts (e.g., metal tools, arrowheads, etc.) appearing to pre-date the 20th century or unusual soil zones are encountered during excavation.

In the event there are any unexpected discoveries of potential human remains (e.g., bones or bone fragments), work must be halted or diverted to other areas until appropriate measures are taken. Contract Project Managers must be informed that any human remains encountered are protected by state and federal law. The following procedures must be followed:

- Halt work at the location leaving remains in place and any associated features and objects
- Notify base Archaeologist/NEPA Section per Section 7.0 of this EA
- Redesign project to avoid remains, if possible
- The base Archaeologist/NEPA Section will contact the SHPO, and if remains are Native American will contact tribe(s)
- Removal of remains requires a permit from the SHPO, including the participation of a skeletal biologist or physical anthropologist, and plans to make appropriate notifications to possible descendants/relatives and other measures in accordance with state law and Advisory Council on Historic Preservation (ACHP) guidelines

4.5 Air Quality

Impact of Alternative A: The no action alternative would not have an impact on air quality.

Impact of Alternative B: Stafford County is within an attainment area within the Ozone Transport Region, while Prince

William County is within a marginal non-attainment area. Both counties are in a PM_{2.5} attainment area. The pollutant *de minimis* criterion for General Conformity evaluations is 50 tons per year (tpy) for volatile organic compounds (VOC), 100 tpy for NO_x, 100 tpy for PM_{2.5}, and 100,000 tpy for CO₂. Sources of these pollutants associated with Alternative B would include emissions from construction equipment, crew commuting vehicles, fugitive dust, and from use of other fuel-burning equipment. Projected emission from the action alternative will fall within the *de minimis* levels.

No additional new air emissions sources are currently being proposed with Alternative B. If this changes, specifications for the new emissions source are required to be submitted to the NREA Air Program manager for review.

General Conformity

The General Conformity Rule 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.

General Conformity under the Clean Air Act, Section 1.76, has been evaluated for the proposed project according to the requirements of MCO 5090.2A CH 3 and 40 CFR 93 Subpart B. The requirements of this rule are not applicable to this project because the total direct and indirect emissions from this project have been estimated at 4.26E-01 tons NO_x and 2.72E-02 tons VOC. These levels are below the conformity threshold value of 50 tpy VOC and 100 tpy NO_x, established by 40 CFR 93.153(b), for a Non-Attainment Area located in an Ozone Transportation Region.

Annual direct and indirect emissions from the proposed action are calculated to be below all applicable *de minimis* thresholds in 40 C.F.R. part 93.153(b). A General Conformity Determination is not required.

			PROJECTED ACTUAL EMISSIONS						
			VOC	CO	NOx	PM	PM 10	CO ₂	SO ₂
CONSTRUCTION EQUIPMENT	Quantity	Usage	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
Chippers/Stump Grinders (Com.)	1	120	11.86	55.53	126.62	13.07	5.88	13,154.90	26.60
Crawler Tractor/Dozers	1	120	28.40	84.25	226.55	24.55	11.05	22,471.42	45.44
Leafblowers/Vacuums (Com.)	2	120	2.33	12.95	15.87	1.66	0.75	1,762.74	3.56
			VOC	CO	NOx	PM	PM10	CO ₂	SO ₂
HIGHWAY VEHICLES	Vehicle-Days	Miles/Day	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
Light Heavy Duty (Diesel)	360	60	7.91	36.57	234.75	1.71	0.77	24,714.16	0.00
Heavy Heavy Duty Tractor (Diesel)	180	60	3.97	21.32	248.95	5.23	2.35	38,462.15	0.00
						PM	PM10		
LAND CLEARING EMISSIONS	ACRES	8hr Days				(lbs)	(lbs)		
	90	20				160.00	72.00		
TOTAL PROJECTED EMISSIONS (tons)			2.72E-02	1.05E-01	4.26E-01	1.03E-01	4.64E-02	5.03E+01	3.78E-02
Notes:									
RSM means Crew B-7x 15 days for tree removal.									
Substituted leafblower emissions for chainsaw emissions.									
HHD Tractors for equipment delivery and debris haul away.									

Figure 4.5.1

New Source Performance Standards

The proposed action is potentially subject to the following NSPS regulation:

- 40 C.F.R. 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

National Emission Standards for Hazardous Air Pollutants

The proposed action is subject to the following NESHAP regulations:

- 40 C.F.R. 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted

from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

Virginia SIP Regulations

The proposed action is subject to the following Virginia regulations:

- 9 VAC 5-40, Article 1 - Visible Emissions and Fugitive Dust/Emissions.
- 9 VAC 5-130 - Open Burning.

Visible Emissions and Fugitive Dust/Emissions

No owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles and other surfaces, which may create airborne dust; the paving of roadways and maintaining them in a clean condition.
3. Installation and use of hoods, fans and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.
4. Open equipment for conveying or transporting materials likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion.
5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

Open Burning

Open burning is prohibited except for those exceptions allowed by 9 VAC 5-130, Regulation of Open Burning.

NREA should be consulted prior to any open burning.

4.5.1 Climate Change

CEQ's NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions states that "if a proposed action would be reasonably anticipated to cause direct emissions of 27,563 tpy (25,000 metric tons) or more of CO₂-equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public." These recommendations are consistent with the EPA's Mandatory Reporting of Greenhouse Gases rule (40 C.F.R. part 98) (2009), which applies to all stationary sources emitting 27,563 tpy or more of GHG emissions. The rule allows for data collection to help shape future climate change policies and programs but does not require control of GHGs.

Impact of Alternative A: The no action alternative would not cause an increase in greenhouse gas emissions and would not have new effects on climate change.

Impact of Alternative B: The proposed project will not add new emission sources. This project would not have any long term changes in stationary or mobile emission sources or landfill operations. In compliance with the CEQ's and EPA's guidance, quantitative analysis of CO₂ equivalents is not required for the proposed action.

GHG Reporting

Actual emissions from the proposed action are not expected to cause the total GHG emissions from MCBQ to exceed mandatory reporting thresholds.

GHG PSD Permitting

The proposed action does not involve the construction of any new stationary source or any project (which includes any addition or replacement of an emissions unit, any modification to an emissions unit or any combination of these changes), or the

reduction of any stack outlet elevation at any stationary source. Therefore, GHG PSD permitting regulations do not apply.

GHG Title V Permitting

Actual emissions from the proposed action are not anticipated to cause the GHG PTE of the entire base to exceed 100,000 tpy, so the base will remain exempt from Title V permitting requirements for GHGs.

4.6 Noise

Impact of Alternative A: The no action alternative would not impact existing noise levels on the base or the surrounding area.

Impact of Alternative B: Implementation of the proposed action would generate short-term, temporary noise from tree clearing operations (i.e., noise from construction equipment, supply trucks, and worker vehicles). The proposed action alternative would not have a permanent increase on existing noise levels which include live-fire activities for the nearby ranges, and traffic on MCB-1 and Joplin Rd.

Noise associated with construction activities under Alternative B would be temporary. Given the type and duration of the noise to be generated, the ambient noise level adjacent to the project site, and the lack of noise sensitive receptors (i.e. homes, schools, and hospitals), noise generated by tree removal activities is not expected to result in significant noise impacts. No post-construction noise is expected at the site.

4.7 Environmental Justice

Impact of Alternative A or B: Implementing either of the proposed alternatives would not be expected to significantly impact the socioeconomics or create disproportionately high and adverse human health or environmental effects to minority, low-income populations, or children at MCBQ or in the surrounding area.

This project will have temporary minor impacts such as noise created by tree clearing activities, but these impacts will not disproportionately affect minority, low-income populations, or children. Best management practices such as dust management would also be employed to eliminate or keep temporary environmental nuisances to a minimum.

4.8 Health/Safety and Munitions Response Program

Impact of Alternative A: This alternative would maintain the status quo and would not have additional effects on health and safety.

Impact of Alternative B: Although the footprint is located within the non-dudged impact area of MCBQ, there is no unexploded ordnance (UXO) located within the proposed TA12B adjustment and firebreak footprint. Although the project area is not within any known munitions response sites, MCBQ includes active and former ranges and there is always the potential to encounter UXO, military munitions, discarded military munitions, and/or munitions and explosives of concern during excavating activities and earth disturbing activities.

According to the MCO 5090.2A. Ch. 3, Chapter 10, Section 2, Paragraph 10221, if contamination is discovered during construction and it is Defense Environmental Restoration Program (DERP) eligible, NAVFACENCOM can carry out the site investigation/cleanup using ER,N funds. However, the site will compete with other ER sites based on risk management. If ER,N funding is not available in time to meet the construction schedule, the installation must use project funds to investigate/clean up the site.

4.9 Hazardous Materials/Waste/Solid Waste

There is no adverse impact from hazardous materials/waste or solid waste anticipated with this project.

Impact of Alternative A: This alternative would have no effect on general procedures and practices for hazardous material removal, hazardous waste management, or solid waste management at MCBQ.

Impact of Alternative B: The Action Alternative would result in construction/demolition debris (CDD) and waste. Reports of waste generated (including recycling) including material type (CDD, concrete, scrap metal, used oil, etc.), tons, disposal destination, and disposal cost shall be reported via the Construction Waste Management Report to NREA within 30 days of the close of the project, and no later than October 15, to be included in annual report submissions (see Appendix E). All spoils and debris generated by the operation shall be transported off base and disposed of in accordance with all federal, state, and local regulations.

The contractor is responsible for coordinating all solid waste disposal at a landfill that meets all Federal, State, and local regulatory standards. The contractor will support the solid waste diversion philosophy outlined in E.O. 13514 by recovering/recycling.

Neither alternative would have an effect on general procedures for removal of hazardous materials and hazardous waste management at MCBQ. No hazardous materials would be introduced under either of the alternatives however the following guidance must be adhered to:

According to the Marine Corps Order 5090.2A Ch. 3, Chapter 10, Section 2, Paragraph 10221:

"All efforts must be made to ensure that Marine Corps' projects are not constructed on contaminated sites. However, there may be times when the project is being planned or is underway and contamination is discovered.

1. If contamination is discovered during the planning stage, Naval Facilities Engineering Command (NAVFAC) can investigate and determine the need for clean up using Environmental Restoration Program, Navy (ER,N) funds and following environmental restoration (ER) procedures. However, the site investigation/clean-up must compete with other ER sites based on risk management. In most cases, this will take several years and the site may not be available in time for the project.

2. If contamination is discovered during construction and it is Defense Environmental Restoration Program (DERP) eligible, NAVFAC can carry out the site investigation/cleanup using ER,N funds. However, the site will compete with other ER sites based on risk management. If ER,N funding is not available in time to meet the construction schedule, the installation must use project funds to investigate/clean up the site. If neither ER,N nor project funding is available in time to meet the construction schedule, the installation must stop the project altogether or re-site it. An installation does not have an option to pay for any DERP-eligible work with installation Navy Operations and Maintenance (OM,N) funds except to accomplish DERP-eligible work within the scope of an OM,N funded construction project."

All contractors (prime and sub and employees representing either) shall adhere to all of the following requirements which

could/may apply while performing work at MCB Quantico: Resource Conservation and Recovery Act (RCRA) of 1976, Federal Facilities Compliance Act of 1992, 40CFR 260-279, 29 CFR 1910.120.q and CFR 1910.1200, MCO P5090.2A w/ CH 3, Chapter 9, MCBO 5090.2D, MCBO 6240.4B, MCBQ Environmental Compliance and Protection Standard Operating Procedures chapters (ECPSOP) 3-Hazmat, 4-Hazwaste, and 5-Solid Waste.

If any waste (non-hazardous, hazardous, or universal) is transported for disposal from MCBQ, only NREA personnel are authorized to sign transportation documentation. Copies of all documentation will be forwarded to the Contracting Officer (KO). The contractor shall ensure all employees' and representatives' Hazmat/Hazwaste training certificate/s are provided to the KO before any work is initiated. If the contractor is to use a laydown area which will store hazardous material on Govt. property, he/she shall ensure the laydown area can be secured at the end of every work shift to ensure there is no unauthorized entry. The contractor shall ensure that all emergency point of contact (POC) names and numbers are posted and legible from 50' on all four sides. If hazardous materials are stored on site at laydown area, a National Fire Protection Association (NFPA) diamond must be posted declaring the severity of each hazard being stored. The contractor shall ensure all specific Safety Data Sheets (SDS) are on site and all employees are trained and aware of each hazard. The contractor shall ensure that all employees are trained in spill response in case of a hazmat spill during the contract period.

The contractor shall ensure all hazardous and non-hazardous liquid materials and liquid waste are stored on secondary containment. The contractor shall ensure that all flammable liquids and compressed gas cylinders stored inside the laydown area are stored at the most distance point from the closet highway. The contractor shall ensure there is a certified and working eyewash station where chemicals are used and stored and, it is inspected weekly.

Ensure all employees (prime, sub, and all representatives of both) are trained and certified in the skills required to perform the statement of work (SOW) on this specific contract. The contractor shall ensure proper type and quantity of spill equipment are on site at all times and all contractor employees are trained in the proper use of all spill equipment and disposal.

The contractor shall ensure all hazardous, non-hazardous, and recycled waste is properly disposed of. NREA hazardous waste program manager may request a site visit after completion of final work and contractor is still on base.

The contractor shall ensure no soil being removed, graded, or turned shows signs of being contaminated. If soil contamination is identified, work shall stop immediately and the KO notified. Work shall not resume until permission is granted by the KO.

4.10 Recreation

Hunting areas occur in the immediate proposed project area. The proposed TA12B boundary adjustment and firebreak would have a positive impact on hunting activities because more land in TA12B would be available for recreational activities. TA12B would also be available for recreational activities when the Range 14 series complex, Range 14, WTBN, and F.B.I. ranges are being utilized. Existing recreational opportunities would not be negatively impacted by the proposed action.

4.11 Military Training

Impact of Alternative A: This alternative does not involve any construction, and would not have any additional effects on military training.

Impact of Alternative B - Proposed TA12B Adjustment:

Alternative B would have a positive impact on military training because TA12B would be able to be utilized for LANDNAV and maneuver training during times when the Range 14 series, Range 14, WTBN, and F.B.I. ranges are being utilized for live-fire training activities. The training on the Range 14 series, Range 14, WTBN, and F.B.I. ranges would not be negatively impacted or restricted due to the implementation of the proposed action.

4.12 Cumulative Impacts

For NEPA analysis, a cumulative impact is defined as the impact on the environment, which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future action. Impacts can result from individually minor but collectively significant actions taking place over a period of time.

The following actions are either recent past, ongoing, or future projects adjacent to the TA12B adjustment:

Past projects:

- Expansion and Upgrade of Range 5 (Completed).

Ongoing projects:

- Construction of Student Barracks at The Basic School (TBS).

Future projects:

- General maintenance of Range 6.
- Install temporary targets on Range 6.
- Construction of new TBS Fire Station.
- Construction of MiniMart at Hot Patch Road.
- Re-establishment of the Perimeter Trail in TA7A and TA9C.
- Contractor-Owned, Contractor Operated (COCO) Retail Service Facility (Westside).
- Range 5 Staging Area.

Mitigation measures similar to those outlined in this EA for The TA12B adjustment will or have been completed for the above mentioned projects as necessary. Consultation with the SHPO is also completed for all construction projects at MCBQ as applicable.

4.13 Mitigation Measures

Environmental Impacts Evaluation Matrix		
Resource	Alternative A -No Action.	Alternative B - TA12B Boundary Adjustment
Land-Use	None	None
Water Resources	None	None
Biological Resources	None	Negligable; No SWP found within proposed action footprint and no actual suitable habitat was located. Not likely to adversely effect the NLEB and Indiana Bat. USFWS time of year restrictions to protect NLEB and Indiana Bat must be adhered to.
Cultural Resources	None	None
Air Quality	None	None
Noise	None	None
Infrastructure, Utilities and Transportation	None	None
Environmental Justice	None	None
Recreation	None	Positive - TA12B will have more land available for recreation.
Health, Safety and Munitions Response	None	None
Hazardous Waste/Materials	None	None
Military Training	None	Positive - Will allow LANDNAV to occur in TA12B. Also will allow Marines to maximize TA infrastructure and capacity; can train when Range 14, Range 14 series, WTBN and F.B.I. ranges are being utilized.

Figure 4.13.1

4.13.1 Mitigation of Effects to Water Quality

The implementation of basic erosion and sediment control practices will be required during as specified in the Virginia Erosion and Sediment Control Handbook (VDCR 1992), the Virginia BMP Field Guide (2009) and the Virginia BMPs For Water Quality Technical Manual (2011) for Forestry Management. The proper installation and maintenance of E&SC measures will minimize the movement of disturbed soils off-site and into the Chopawamsic Creek and Potomac River watersheds. Any timber removed to establish the firebreak will be burned in accordance with NREA

Forestry Program management practices. The new surface will consist of a 10 ft. wide aggregate road and perennial vegetation.

4.13.2 Mitigation of Effects to the NLEB and Indiana Bat

To minimize impacts to the NLEB and federally-endangered Indiana bat, USFWS time of year restrictions will be implemented for this action. No trees greater than 3 inches diameter at breast height may be removed between 15 April and 15 September, inclusive.

5.0 CONCLUSION

Two alternatives have been evaluated for the proposed action: The No Action Alternative, Alternative A and the Action Alternative, Alternative B - The TA12B Adjustment. Alternative B will create a .35 mile firebreak to delineate the new boundary of TA12B. It has been determined after thorough analysis, if the mitigations outlined in Sec 4.13.1 and 4.13.2 are followed, Alternative B will have no significant impact to human health and the environment.

6.0 LIST OF PREPARERS

Darien Siddall
NEPA Coordination Section
Natural Resources and Environmental Affairs Branch
Installation and Environment Division (GF)
Marine Corps Base Quantico, VA 22134
(703) 432-6770

7.0 LIST OF AGENCIES AND PERSONS CONTACTED

Marc Holma, Architectural Historian
Virginia Department of Historic Resources
Richmond, VA

Natural Resources and Environmental Affairs Branch, Installation and Environment Division, Marine Corps Base Quantico, VA 22134
Ms. Amy Denn, Head
Major Abram Crutchfield, Deputy
Mr. Frank Duncan, Environmental Planning Section Head
Mr. J. David Grose, Environmental Compliance Section Head
Mr. Robert Stamps, Natural Resources Section Head
Ms. Heather McDuff, NEPA Coordination Section Head
Mr. Ronald Moyer, Forestry Section Head

Mrs. Catherine Roberts, Cultural Resources Manager
Mr. Seth Morphis, Air Program Manager
Mr. Jonmark Sullivan, Water Program Manager
Mr. Wayne Hagwood, Hazardous Waste Program Manager
Dr. Ruth Jacobsen, Chemist/Hazardous Materials Program
Manager
Ms. Marilisa Porter, Solid Waste Program Manager
Mr. Brian Ventura, Munitions Response and Installation
Restoration Program Manager

8.0 REFERENCES

40 CFR parts 1500-1508, Council on Environmental Quality.

50 CFR part 17, Department of the Interior, Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule; Final Rule and Interim Rule, Vol. 80, No. 63, Thursday, April 2, 2015.

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).

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

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

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

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

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

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

Intergovernmental Panel on Climate Change (IPCC), 2007.

Mandatory Reporting of Greenhouse Gases rule (40 C.F.R. Part 98), Environmental Protection Agency, 2009.

Marine Corps Order 11010.16, 2008.

Marine Corps Order P5090.2A Ch 2, 2009.

Migratory Bird Treaty Act, 1918 (16 U.S.C. §701-12).

National Environmental Policy Act, 1969 (42 U.S.C. §4321 et seq.).

National Historic Preservation Act, 1966 (54 U.S.C. §300101 et seq.).

Naval Facilities Engineering Command. (2012). Range Complex Master Plan, Marine Corps Base Quantico. Washington D.C.

Natural Resources and Environmental Affairs Branch (NREA) 2007 Integrated Cultural Resource Management Plan for Marine Corps Base, Quantico, Virginia. Natural Resources and Environmental Affairs Branch, Marine Corps Base Quantico, VA.

NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions, draft, 2010. Council on Environmental Quality.

U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp.

Virginia Department of Conservation and Recreation (VDNR) 1992 *Virginia Erosion and Sediment Control Handbook*, Richmond, VA.

Virginia Department of Forestry. 2009. Virginia's Forestry Best Management Practices for Water Quality Field Guide. Charlottesville, Virginia.

Virginia Department of Forestry. 2011. Virginia's Forestry Best Management Practices for Water Quality Technical Manual. Charlottesville, Virginia.

Table of Acronyms

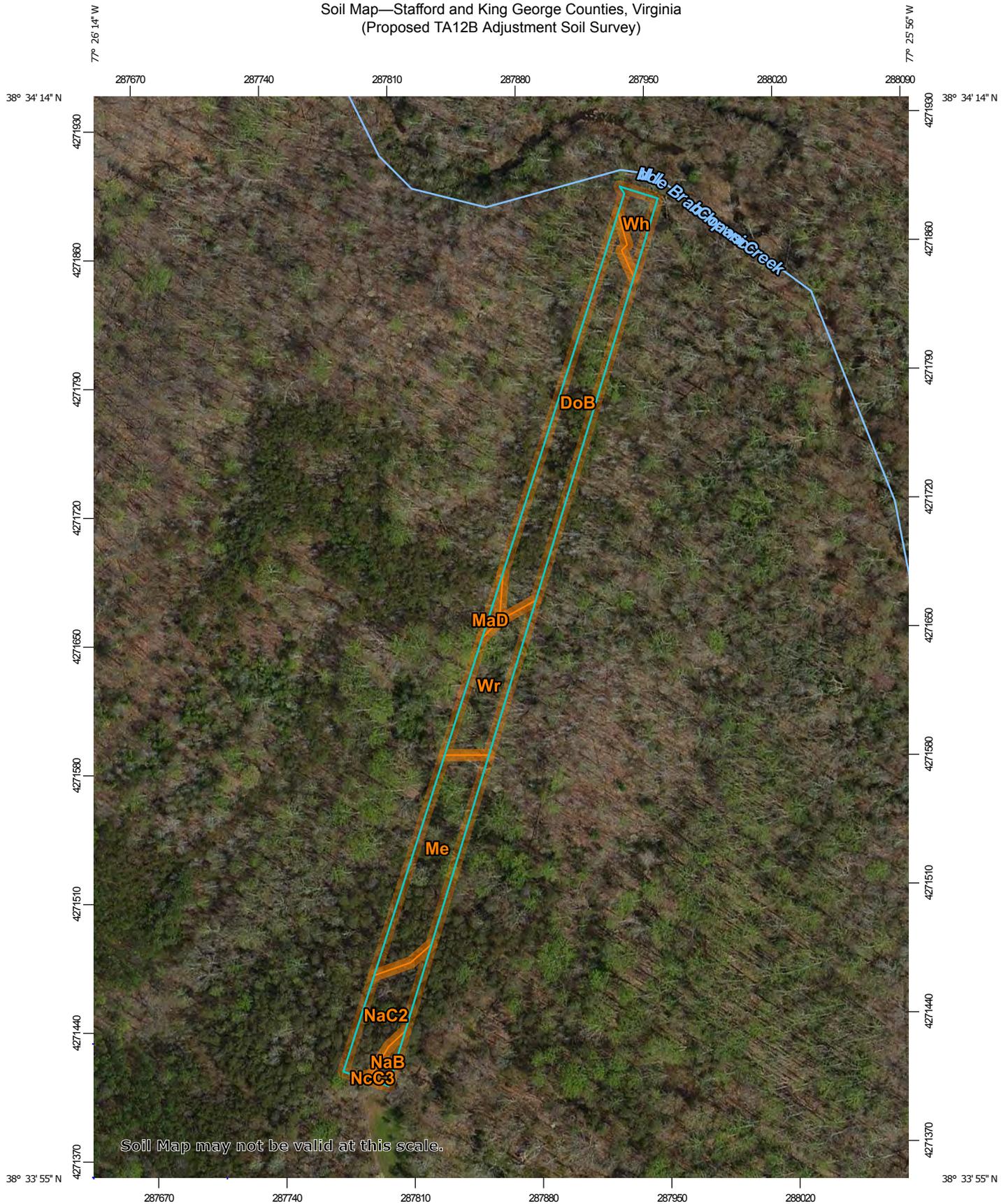
ACHP - Advisory Council on Historic Preservation
ACM - Asbestos Containing Materials
BACT - Best Available Control Technology
BGPA - Bald and Golden Eagle Protection Act
BMP - Best Management Plans
C.A.A. - Clean Air Act
CATEX - Categorical Exclusion
CBPA - Chesapeake Bay Preservation Act
CDD - Construction Demolition Debris
CEQ - Council on Environmental Quality
CFR - Code of Federal Regulations
CH₄ - Methane
CO - Carbon Monoxide
CO₂ - Carbon Dioxide
CO₂E - Carbon Dioxide Equivalent
CRMP - Coastal Resources Management Program
CWA - Clean Water Act
CZMA - Coastal Zone Management Act
DERP - Defense Environmental Restoration Program
DoB - Dogue Loam, 2-6% slopes
DoD - Department of Defense
EA - Environmental Assessment
EISA - Energy Impact Security
ESA - Endangered Species Act
E.O. - Executive Order
E.P.A. - Environmental Protection Agency
ER - Environmental Restoration
ER, N - Environmental Restoration Program, Navy
E & SC - Erosion and Sediment Control
F.B.I. - Federal Bureau of Investigation
FEMA - Federal Emergency Management Agency
FIRM - Flood Insurance Rate Map
GHG - Greenhouse Gases

HVAC - Heating, Ventilation and Air Conditioning.
LAER - Lowest Achievable Emissions Rate
LANDNAV - Land Navigation Training
LID - Low Impact Development
MaD - Manor Silt Loam, 6-15% slopes
MBTA - Migratory Bird Treaty Act
MCBQ - Marine Corps Base Quantico
MCO - Marine Corps Order
Me - Meadowville Silt Loam
Minor NSR - Minor New Source Review
MMBtu/hr - One Million British Thermal Units Per Hour
MO - Marine Operations
MOU - Memorandum of Understanding
MSW - Municipal Solid Waste
NAAQS - National Ambient Air Quality Standard
Nason Silt Loam (NaC2)
NAVFACENGCOM - Naval Facilities Engineering Command
NAVFAC - Naval Facilities Engineering Command
N-A NSR - Nonattainment New Source Review
NcC3 - Nason Silty Clay Loam 6-10% slopes
NEPA - National Environmental Policy Act
NFPA - National Fire Protection Association
NHPA - National Historic Preservation Act
NRHPA - National Register of Historic Places
NLEB - Northern Long-Eared Bat
NO_x - Nitrogen Dioxide
N₂O - Nitrous Oxide
NREA - Natural Resources and Environmental Affairs
NSR - New Source Review
NWI - National Wetlands Inventory
OCS - Office Candidates School
ODS - Ozone Depleting Substances
OM, N - Navy Operations and Maintenance
PCB - Polychlorinated Biphenyl
pCi/L - Picocuries per Liter
PM - Particulate Matter
POL - Petroleum, Oil and Lubricant
PSD - Prevention of Significant Deterioration
PTE - Potential to Emit
QMCBHD - Quantico Marine Corps Base Historic District
Rd. - Road
RMA - Resource Management Areas
RPA - Resource Protection Areas
SHPO - State Historic Preservation Officer
SIP - State Implementation Plan
SO₂ - Sulfur Dioxide
SWP - Small Whorled Pogonia

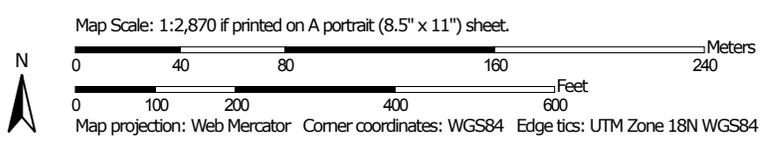
TA - Training Area
TBS - The Basic School
Tpy - Tons per Year
USACE - U.S. Army Corps of Engineers
USCERL - U.S. Army Construction Engineering and Research
Laboratory
USFWS - United States Fish and Wildlife Service
UXO - Unexploded Ordnance
VA - Virginia
VAC - Virginia Administrative Code
VDEQ - Virginia Department of Environmental Quality
VOC - Volatile Organic Compounds
Wh - Wehadkee Very Fine Sandy Loam, 0-2% Slopes
Wr - Worsham Loam (Wr)
WTBN - Weapons Training Battalion

APPENDIX A
Soil Maps

Soil Map—Stafford and King George Counties, Virginia
(Proposed TA12B Adjustment Soil Survey)



Soil Map may not be valid at this scale.



Soil Map—Stafford and King George Counties, Virginia
(Proposed TA12B Adjustment Soil Survey)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.
Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Stafford and King George Counties, Virginia
Survey Area Data: Version 12, Dec 13, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Stafford and King George Counties, Virginia (VA179)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DoB	Dogue loam, 2 to 6 percent slopes	1.0	37.2%
MaD	Manor silt loam, 6 to 15 percent slopes	0.0	1.0%
Me	Meadowville silt loam	0.7	25.7%
NaB	Nason silt loam, 2 to 6 percent slopes	0.1	1.8%
NaC2	Nason silt loam, 6 to 15 percent slopes, eroded	0.4	13.0%
NcC3	Nason silty clay loam, 6 to 10 percent slopes, severely eroded	0.0	0.2%
Wh	Wehadkee very fine sandy loam, 0 to 2 percent slopes	0.1	5.1%
Wr	Worsham loam	0.4	16.0%
Totals for Area of Interest		2.8	100.0%

Appendix B
Small-Whorled Pogonia and Endangered Species Correspondence



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

IN REPLY REFER TO:
11015/1
B 046
24 JUL 17

MEMORANDUM FOR THE RECORD

From: Natural Resource Specialist, Natural Resources Section,
Natural Resources and Environmental Affairs Branch (B 046)
To: File

Subj: 12B proposed new firebreak

Encl: (1) Map of Survey Area for 12B proposed new firebreak

1. On 11 July 2017, the proposed site for the 12B proposed new firebreak was surveyed for the small whorled pogonia (SWP), *Isotria medeoloides*, a federally listed threatened species. The enclosure provides a map of the survey area. Survey personnel were Brad Watkin and Joe Montemayor of the Natural Resources and Environmental Affairs Branch (B 046).

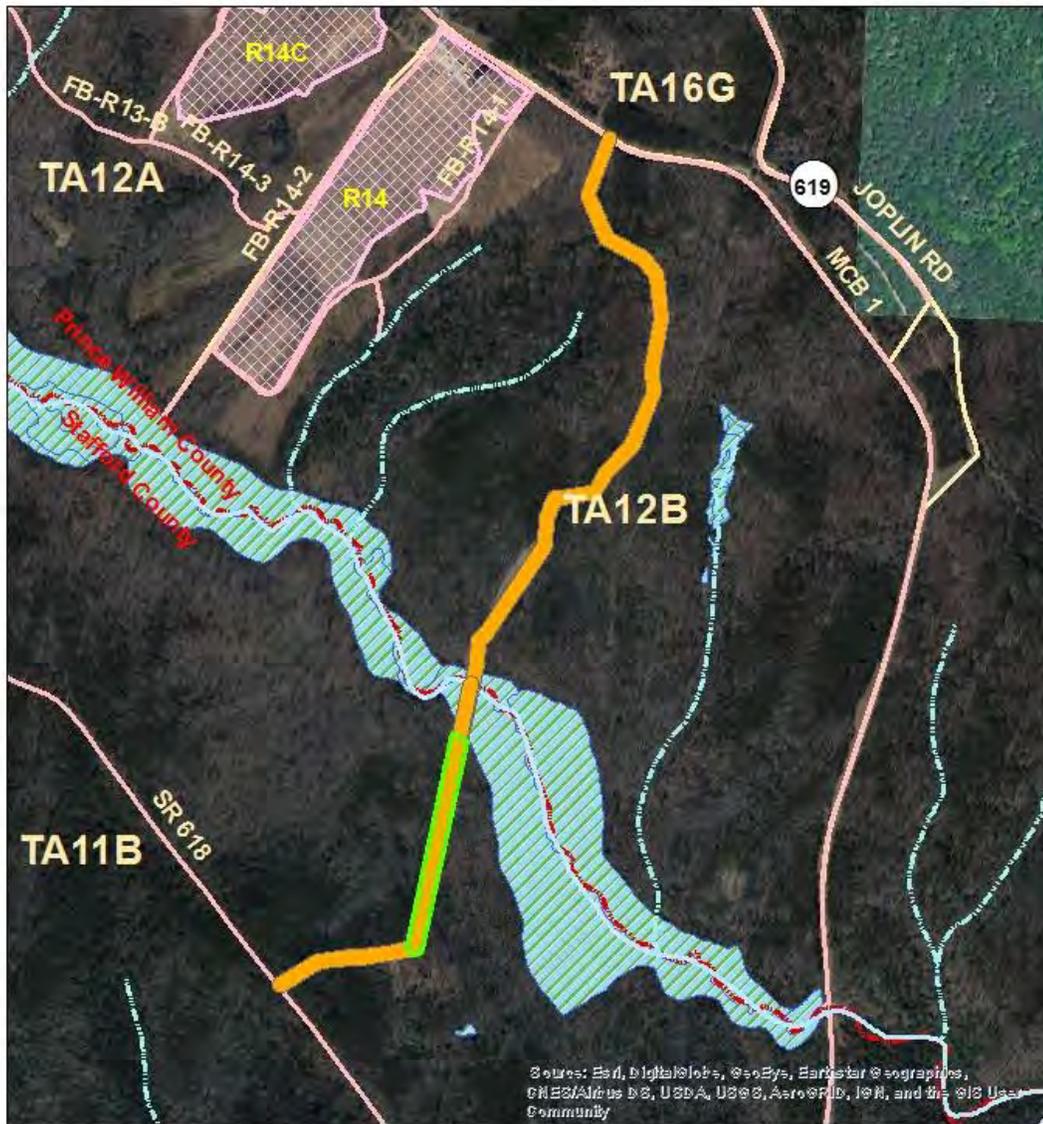
2. Habitat at the site consisted of a dense stand of virginia pine (*Pinus virginiana*) upslope descending gently through an open mature mesic hardwood forest primarily composed of yellow poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubra*), and oak (*Quercus* spp.) and ending in a first order stream floodplain wetland. A small second order stream was close to the northeastern boundary of the site. Indian cucumber root (*Medeola virginiana*), a species commonly found in association with SWP, was present in some small patches near the stream though not within the limits of disturbance.

3. The SWP was not found during the survey. The 12B proposed new firebreak project should not have any impacts on this federally listed species.

B. W. WATKIN

Copy to:
Head, NEPA Section

Proposed TA 12B Adjustment

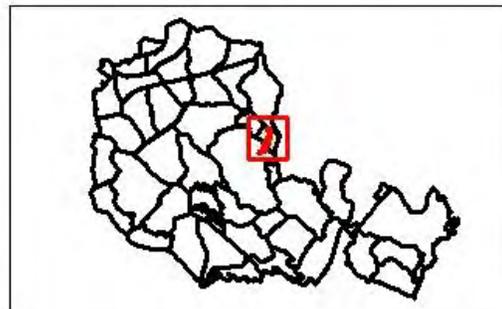


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 0.1 0.2 0.4 Miles

Legend

-  Proposed New Firebreak
-  Proposed New TA12B Boundary
-  Range
-  Intermittent Stream
-  Perennial Stream
-  Wetland
-  Training Area Boundary
-  County Boundary
-  Road





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:

July 25, 2017

Consultation Code: 05E2VA00-2017-SLI-4174

Event Code: 05E2VA00-2017-E-09224

Project Name: Proposed Training Area 12B Adjustment.

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

To Whom It May Concern:

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

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

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

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

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

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

Attachment(s):

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

Official Species List

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

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2017-SLI-4174

Event Code: 05E2VA00-2017-E-09224

Project Name: Proposed Training Area 12B Adjustment.

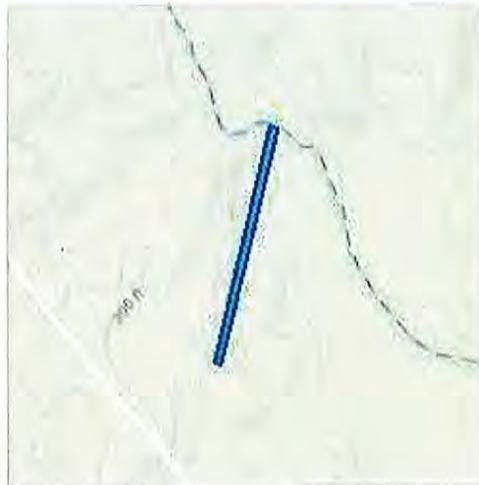
Project Type: LAND - CLEARING

Project Description: Proposed action will establish a 50 ft. wide, .34 mile firebreak starting at North Branch of Chopawamsic Creek.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/38.56814543366212N77.43486769555352W>



Counties: Prince William, VA | Stafford, VA

Endangered Species Act Species

There is a total of 4 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. 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.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Flowering Plants

NAME	STATUS
Harperella <i>Ptilimnium nodosum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739	Endangered
Small Whorled Pogonia <i>Isotria medeoloides</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

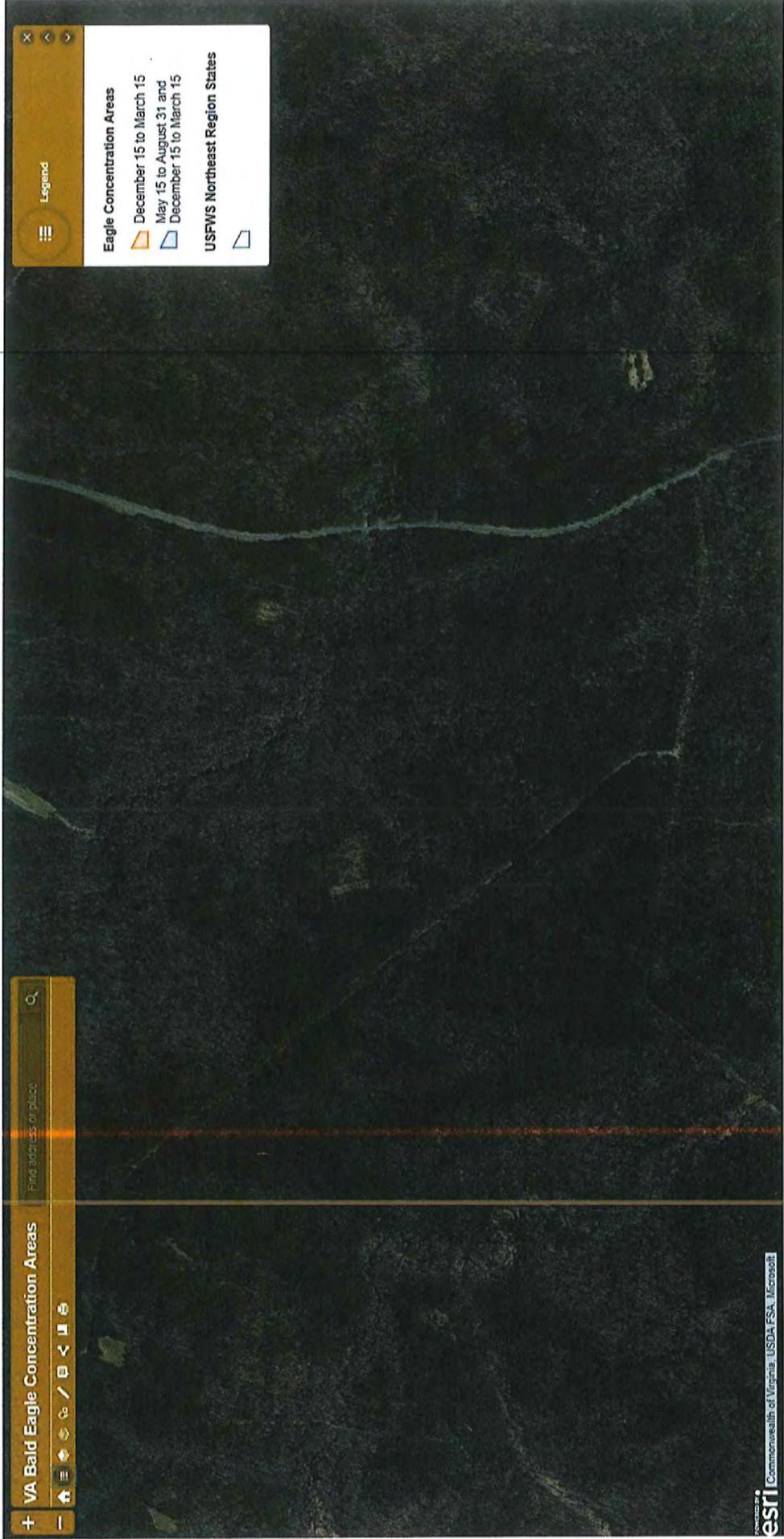
Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.

USFWS National Wildlife Refuges And Fish Hatcheries

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.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.



VA Bald Eagle Concentration Areas

Find addresses or place

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

IN REPLY REFER TO:
11015/1
B 046
24 JUL 17

MEMORANDUM FOR THE RECORD

From: Natural Resource Specialist, Natural Resources Section,
Natural Resources and Environmental Affairs Branch (B 046)
To: File

Subj: 12B proposed new firebreak

Encl: (1) Map of Survey Area for 12B proposed new firebreak

1. On 11 July 2017, the proposed site for the 12B proposed new firebreak was surveyed for the small whorled pogonia (SWP), *Isotria medeoloides*, a federally listed threatened species. The enclosure provides a map of the survey area. Survey personnel were Brad Watkin and Joe Montemayor of the Natural Resources and Environmental Affairs Branch (B 046).

2. Habitat at the site consisted of a dense stand of virginia pine (*Pinus virginiana*) upslope descending gently through an open mature mesic hardwood forest primarily composed of yellow poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubra*), and oak (*Quercus* spp.) and ending in a first order stream floodplain wetland. A small second order stream was close to the northeastern boundary of the site. Indian cucumber root (*Medeola virginiana*), a species commonly found in association with SWP, was present in some small patches near the stream though not within the limits of disturbance.

3. The SWP was not found during the survey. The 12B proposed new firebreak project should not have any impacts on this federally listed species.

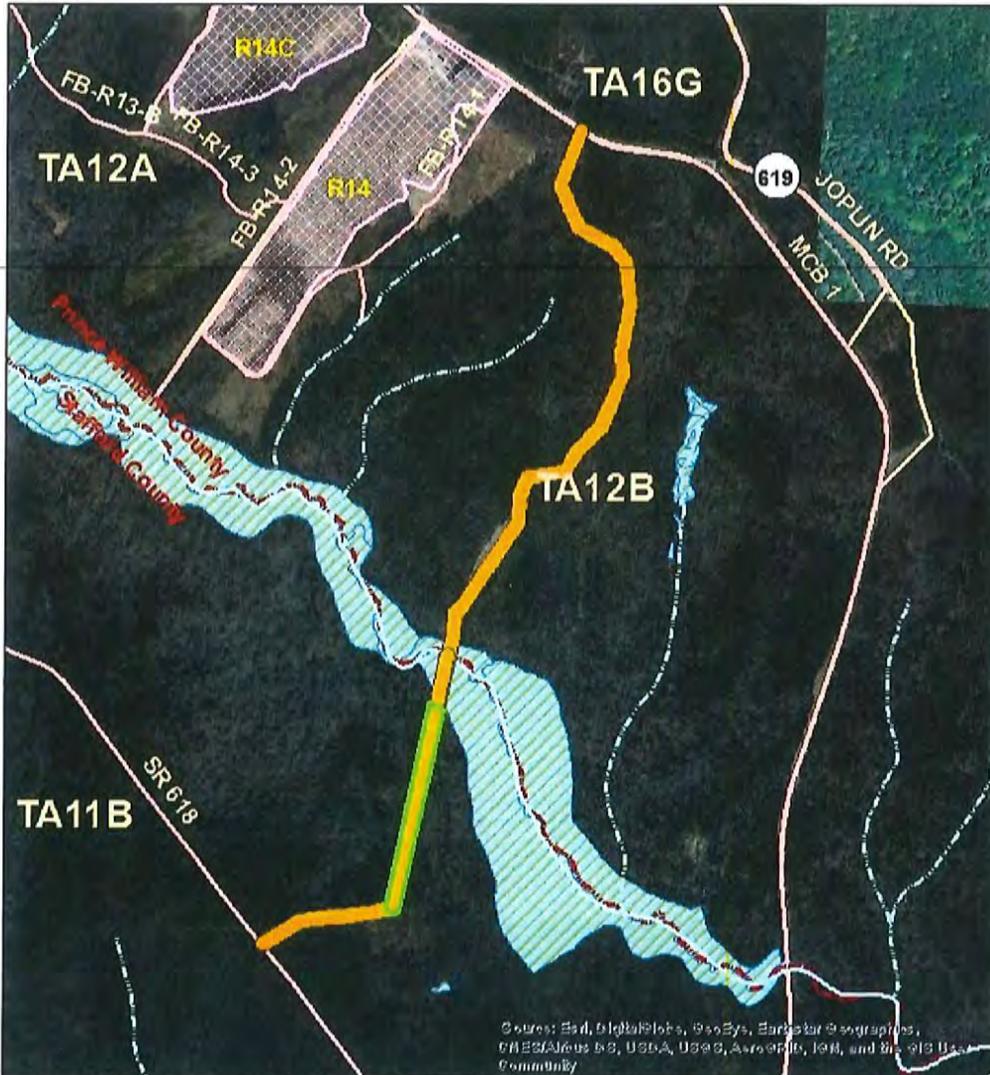
WATKIN.BRADLEY
.W.1285981820

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WATKIN.BRADLEY.W.1285981820
DN: cn=US, o=U.S. Government, ou=DoD, ou=PR,
ou=USMC, ou=WATKIN.BRADLEY.W.1285981820
Date: 2017.07.24 14:06:16 -0400

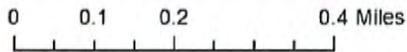
B. W. WATKIN

Copy to:
Head, NEPA Section

Proposed TA 12B Adjustment

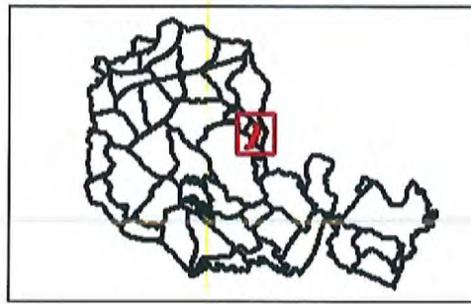


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

-  Proposed New Firebreak
-  Proposed New TA12B Boundary
-  Range
-  Intermittent Stream
-  Perennial Stream
-  Wetland
-  Training Area Boundary
-  County Boundary
-  Road



Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>
Sent: Thursday, May 4, 2017 11:23 AM
To: Siddall CIV Darien G
Subject: [Non-DoD Source] FW: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

See below.

Rick

-----Original Message-----

From: Reynolds, Rick (DGIF)
Sent: Thursday, May 04, 2017 11:01 AM
To: 'Siddall CIV Darien G'
Subject: RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds
Wildlife Biologist
Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482
540-248-9360

-----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]
Sent: Thursday, May 04, 2017 10:52 AM
To: Reynolds, Rick (DGIF)
Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.
Importance: High

Hello Rick,

We spoke at today concerning the State Endangered Little Brown Bat and Tri-Colored Bat. Per our conversation and use of your system, you stated that there were no known colonies of either of these species. They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall
Natural Resource Specialist
NEPA Section
Natural Resources and Environmental Affairs (NREA) Environmental Planning Section
3049 Bordelon St.
Marine Corps Base (MCB) - Quantico, VA 22134
Phone: 703-432-6770
Fax: 703-784-4953
DSN: 278-4030
E-mail: darien.siddall@usmc.mil

INTRODUCTION

In May 2003, the U.S. Department of the Navy, Engineering Field Activity-Chesapeake, entered into a cooperative agreement with the Virginia Department of Conservation and Recreation's Division of Natural Heritage (DCR-DNH) to conduct surveys for harperella (*Ptilimnium nodosum*) at Marine Corps Base Quantico (MCBQ). Fieldwork for the project was originally planned for the summer of 2003, but very high water levels in the stream habitat where the species occurs made inventory for the species impossible that year. Therefore, by a modification to the cooperative agreement signed in October 2003, fieldwork for the project was postponed until 2004.

Harperella is a diminutive herb in the carrot family. On September 28, 1988, the plant was listed as an endangered species under the federal Endangered Species Act of 1973, as amended, which is administered by the U.S. Fish and Wildlife Service (U.S. Fish and Wildlife Service 1988). On January 26, 2004, the plant was listed as an endangered species under the Virginia Endangered Plant and Insect Species Act (Virginia Board of Agriculture and Consumer Services 2004). Harperella is ranked as G2 (very rare and imperiled throughout its range) by NatureServe (the network of natural heritage programs) and The Nature Conservancy. Thirteen extant populations of the species were known from seven states (Alabama, Arkansas, Georgia, Maryland, North Carolina, South Carolina, and West Virginia) when the U.S. Fish and Wildlife Service recovery plan for the species was prepared in 1990. This represented a 50 percent decline in the number of sites known historically. The recovery plan lists surveys for additional populations as a task necessary for the long-term protection of the species and its habitat. Such surveys are needed to meet the objective of removing the plant from the list of species protected under the Endangered Species Act (Maddox and Bartgis 1990).

Harperella was discovered for the first time in Virginia in 2002. The location was along Aquia Creek at the southern boundary of Marine Corps Base Quantico in Stafford County. An estimated 350 ramets were located within a 10 by 20 meter area extending from the northern bank to about the middle of the creek (Figure 1). The plants were found where the creek makes a sharp (ca. 90 degree) bend a short distance upstream from the Fall Line. Plants were growing from several bedrock fissures in the mafic bedrock that underlies the creek in this area. Additional information about this population is found in Belden and Van Alstine (2002). The discovery of this population raised the possibility of additional locations for the rare plant at MCBQ and served as the impetus for this survey study.

Some authors split *Ptilimnium nodosum* (Rose) Mathias into two or three separate species. If two species are recognized (*Ptilimnium nodosum* (Rose) Mathias and *Ptilimnium fluviatile* (Rose) Mathias), the Virginia material is *Ptilimnium fluviatile* (Rose) Mathias. If three species are recognized (*Ptilimnium nodosum* (Rose) Mathias, *Ptilimnium fluviatile* (Rose) Mathias, and *Ptilimnium viviparum* (Rose) Mathias), the Virginia material is *Ptilimnium viviparum* (Rose) Mathias (Rose 1905, Rose 1911, Mathias 1936, Easterly 1957, Maddox and Bartgis 1990). In listing the plant as an endangered species in 1988, the U.S. Fish and Wildlife Service used the name *Ptilimnium nodosum* to include all three of these entities.

areas or alter the widely fluctuating hydrologic regime to which the species is adapted. The latter includes siltation caused by run-off from construction, development, or agriculture; stream acidification from acid deposition (acid rain); and stream eutrophication from sewage or other nitrate deposition (Maddox and Bartgis 1990).

Based on this review of habitat requirements for harperella, it was determined that the following watercourses at MCBQ had potential for the rare species: Aquia Creek above Smith Lake, Chopawamsic Creek below Breckenridge Reservoir and west of I-95, and Cedar Run. Beaverdam Run was also considered, but it appeared that the free-flowing portions of this waterway were too narrow to provide the open, sunny conditions required by the rare species. Several points along Beaverdam Run were checked during field surveys for this project, and the creek did, in fact, appear too shaded for the plant.

Fieldwork for this project was conducted between August 10 and August 19, 2004, by DCR-DNH field botanist Allen Belden Jr. Dr. Elizabeth Fortson Wells, Associate Professor of Botany at The George Washington University in Washington, D.C., and two of her students assisted with fieldwork on August 10, 2004. Those watercourses with potential habitat for harperella were walked and waded during that time, and all sand/gravel/cobble bars, shoals, water willow beds, and bedrock fissures were carefully checked for the diminutive plant. Figures 2-7 show the exact areas that were searched for the rare species.

RESULTS AND DISCUSSION

No new populations or colonies of harperella were found at MCBQ in 2004.

Extensive potential habitat for harperella was found along Aquia Creek. The portion of the creek that appeared most favorable begins west of Smith Lake. The eastern terminus of the survey route shown in Figure 7 indicates the end of the free-flowing portion of Aquia Creek upstream from the lake and, thus, the eastern boundary of potential habitat along the creek. Favorable habitat extends west for 2.2 straight-line kilometers to where an unnamed tributary (whose headwaters begin just north of the town of Sheltons Shop) enters the creek from the south.

In this area, Aquia Creek has a relatively steep gradient as it passes over the Fall Line. Sand/gravel/cobble bars and small rock outcrops are numerous. Shallow riffles, shoals, and water willow beds are frequently encountered. The creek is sufficiently wide in this area to provide ample sunlight to creek bed vegetation. There is, however, a major problem for harperella in this area. Extensive residential and commercial development in the watershed in recent years on private lands to the south and west of MCBQ has resulted in serious sediment loading into the creek. The deeper pools along the watercourse are often clogged with several feet of watery silt. A less serious problem is the presence of aggressive non-native species that could compete with the rare plant. These include eulalia (*Microstegium vimineum*), marsh

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

CHAPTER 7

THREATENED AND ENDANGERED SPECIES

SECTION 5: HARPERELLA

7500. DESCRIPTION, LIFE HISTORY, AND HABITAT REQUIREMENTS

1. General Description. Harperella (*Ptilimnium nodosum*) is an annual herb belonging to the carrot family (Apiaceae). In 1988, the plant was listed as a federal endangered species. In 2004, it was listed as an endangered species under the Virginia Endangered Plant and Insect Species Act. Harperella grows to a height of 40 - 100 centimeters, with hollow, quill-like leaves. Its flowers are similar in appearance to Queen Anne's Lace, a common roadside plant (USFWS 1990).

2. Reproduction. Harperella produces small white flowers in clusters called umbels during the flowering period, May - June. The plant germinates, grows and flowers in one season. Seedling germination has not been observed, but the fall die-back of adults suggests that germination occurs in late spring (USFWS 1990).

3. Habitat. This plant is found in rocky substrate along edges of coastal plain ponds and seasonally flooded streams (USFWS 1990). In the northern part of its range, it grows on sandy or gravelly shoals or in bedrock crevices of clear, swift-flowing streams or rivers. It appears to favor sunny areas and is often associated with the herb water willow (*Justicia Americana*) (Maddox and Bartgis 1990).

7501. MCBQ HISTORICAL INFORMATION.

1. The VDCR found a harperella site along Aquia Creek in 2002 (Belden 2002). The site is located about 0.9 mile northwest of Garrisonville Road and about 0.4 mile southwest of the junction of Aquia Creek and Onville Road (Route 641). It is estimated that there were 350 ramets of Harperella within a 10 by 20 meter area extending from the northern bank of Aquia Creek to about the middle of the creek.

2. All riverine habitat on the Base deemed suitable for Harperella was surveyed in 2004. No new populations of harperella were found beyond that found by VDCR in 2002 (Belden 2004). The Aquia Creek population had declined from about 350 in 2002 to only 20 ramets in 2004. It is believed that high water levels and accompanying increase in flood scouring in 2003 from hurricane Isabel may have accounted for the decline. In 2005, the VDCR found 50-60 ramets and it appeared that the population was rebounding (Townsend, pers. comm.).

3. Fieldwork conducted at the Aquia Creek site by VDCR in August, 2009, located 57 Harperella ramets (Belden 2009). While the population appears to be stabilizing, there remains a threat in the

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

MCB Quantico: Harperella Site and Cannon Creek Watershed - April 17, 2006

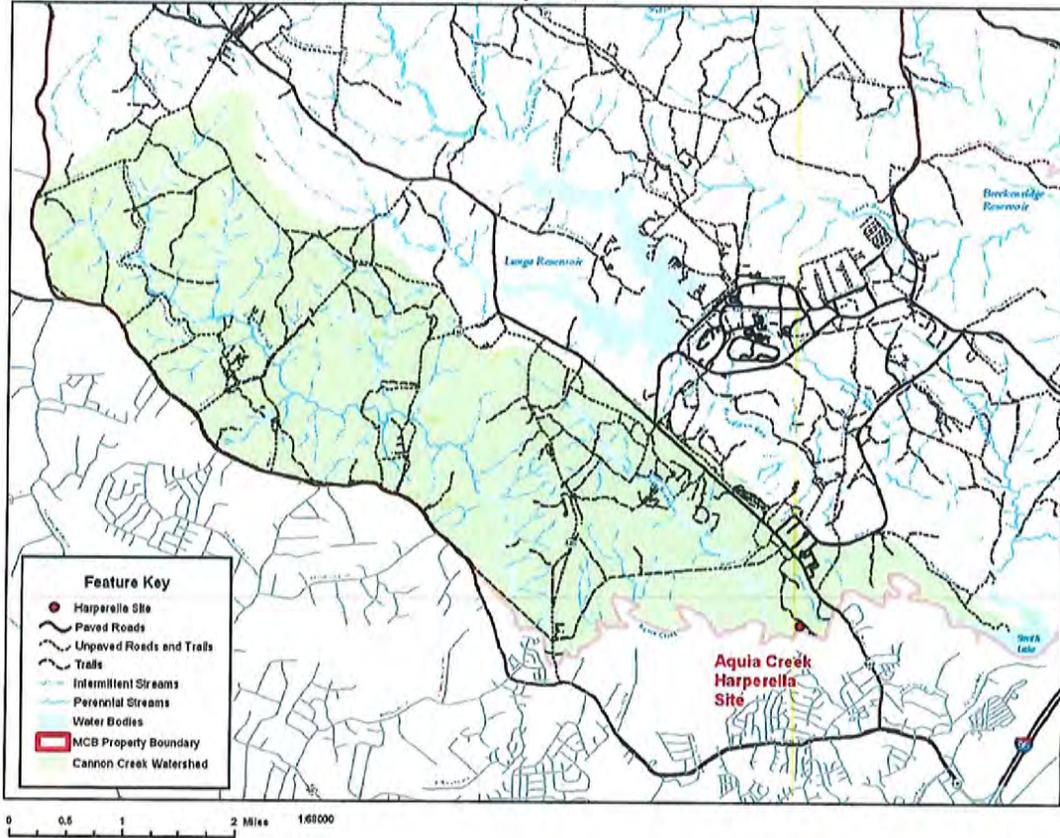


Figure 7-4. Harperella location and watershed.



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 26 July 2017

Self-Certification Letter

Project Name: Proposed Training Area 12B Adjustment

Dear Applicant:

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

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

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

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

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

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

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

Sincerely,



Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

Species Conclusions Table

Project Name: Proposed Training Area 12B Adjustment at Marine Corps Base Quantico, VA

Date: 10 August 2017

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Critical Habitat	No critical habitat present.	No effect.	Not applicable.
Bald Eagle	Unlikely to disturb Bald Eagle nests.	No eagle act permit required.	No nests within 660 ft. and not within a concentration area.
Harperella	No suitable habitat present.	No effect.	Project will not include the stream or freshwater wetland habitat. It will not be near or adjacent to the bank/shoreline of the stream. Firebreak/road will terminate where slope steepens and will not enter the stream/streambank/shoreline or wetlands. Buffer will also be maintained as a BMP.
Small-Whorled Pogonia	Species not present/small amounts of potential habitat present.	Not likely to adversely effect.	Survey was performed on 11 July 2017 by qualified surveyor (Natural Resource Specialist) indicated absence.
Northern Long-Eared Bat	Suitable habitat present; species not present.	Not likely to adversely effect.	Implementing USFWS time of year restrictions from April 15 – September 15; proposed action will be completed between 15 September 2017 and 15 April 2018.
Indiana Bat	Suitable habitat present; species not present.	Not likely to adversely effect.	Implementing USFWS time of year restrictions from April 15 – September 15; proposed action will be completed between 15 September 2017 and 15 April 2018.

-----Original Message-----

From: Moyer CIV Ronald R

Sent: Wednesday, July 5, 2017 8:56 AM

To: Lavrinovich Jr CIV Walter E <walter.lavrinovich@usmc.mil>; Siddall CIV Darien G <darien.siddall@usmc.mil>; Morris CIV James S <james.s.morris@usmc.mil>; Crawford CIV Christopher W <christopher.w.crawford@usmc.mil>; Rohm CIV John H <john.rohm@usmc.mil>; Watkin CIV Brad W <brad.watkin@usmc.mil>; Snow CIV Michael B <michael.b.snow@usmc.mil>

Cc: McDuff CIV Heather A <heather.a.mcduff@usmc.mil>; Duncan CIV Frank <frank.duncan@usmc.mil>

Subject: RE: Training Area 12B Adjustment

All,

As ~~Forestry is most likely~~ going to construct this break, we do not need to cross the North Branch. We do plan on building a passable road within the break, strictly for firefighting access, but can stop short of the wetlands around the North Branch. The road will stop where the slope gets steep going down into the creek.



Ron Moyer

Head, Forestry Program

NREA, Installation & Environment Div.

MCB Quantico, Virginia

Phones: 703 432-6779

571 238-8802

-----Original Message-----

From: Lavrinovich Jr CIV Walter E

Sent: Friday, June 30, 2017 1:54 PM

To: Siddall CIV Darien G; Morris CIV James S; Moyer CIV Ronald R; Crawford CIV Christopher W; Rohm CIV John H; Watkin CIV Brad W; Snow CIV Michael B

Cc: McDuff CIV Heather A; Duncan CIV Frank

Subject: RE: Training Area 12B Adjustment

Darien,

Thanks for the work on this.

For everyone else,

RMB does not need this firebreak to be vehicle trafficable across the creek. We just need a visible break in the trees where we can put TA perimeter signs so that anyone using the TA on foot can tell when they've reached the edge. A footpath through the wetlands area connecting the two firebreaks would be enough for our purposes.

If Forestry or QFD would prefer vehicle trafficable for wildfire control

Siddall CIV Darien G

From: Lavrinovich Jr CIV Walter E
Sent: Thursday, July 6, 2017 3:49 PM
To: Siddall CIV Darien G; Moyer CIV Ronald R; Morris CIV James S; Crawford CIV Christopher W; Rohm CIV John H; Watkin CIV Brad W; Snow CIV Michael B
Cc: McDuff CIV Heather A; Duncan CIV Frank
Subject: RE: Training Area 12B Adjustment
Signed By: walter.lavrinovich@usmc.mil

Darien,

As long as enough underbrush is cleared to allow us to clearly post TA boundary signs on trees through the wetland section, we are fine. No need for any kind of footpath.



Semper Fi,
Walt

-----Original Message-----

From: Siddall CIV Darien G
Sent: Thursday, July 6, 2017 3:43 PM
To: Moyer CIV Ronald R <ronald.moyer@usmc.mil>; Lavrinovich Jr CIV Walter E <walter.lavrinovich@usmc.mil>; Morris CIV James S <james.s.morris@usmc.mil>; Crawford CIV Christopher W <christopher.w.crawford@usmc.mil>; Rohm CIV John H <john.rohm@usmc.mil>; Watkin CIV Brad W <brad.watkin@usmc.mil>; Snow CIV Michael B <michael.b.snow@usmc.mil>
Cc: McDuff CIV Heather A <heather.a.mcduff@usmc.mil>; Duncan CIV Frank <frank.duncan@usmc.mil>
Subject: RE: Training Area 12B Adjustment
Importance: High

Walter and James,

Does a footpath have to be installed across North Branch across the wetlands or are you just fine leaving that portion out of the proposed action ?

Darien Siddall
Natural Resource Specialist
NEPA Program
Natural Resources and Environmental Affairs (NREA)
Environmental Planning Section
3049 Bordelon St.
Phone: 703-432-6770
Fax: 703-784-4953
DSN: 278-4030
E-mail: darien.siddall@usmc.mil

Siddall CIV Darien G

From: Lavrinovich Jr CIV Walter E
Sent: Friday, June 30, 2017 1:54 PM
To: Siddall CIV Darien G; Morris CIV James S; Moyer CIV Ronald R; Crawford CIV Christopher W; Rohm CIV John H; Watkin CIV Brad W; Snow CIV Michael B
Cc: McDuff CIV Heather A; Duncan CIV Frank
Subject: RE: Training Area 12B Adjustment

Darien,

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If Forestry or QFD would prefer vehicle trafficable for wildfire control purposes, we are OK with that; but it's not needed to create the new TA boundary. We are fine with going with the lowest impact on the wetlands as possible. ✖

Thanks,
Walt

-----Original Message-----

From: Siddall CIV Darien G
Sent: Friday, June 30, 2017 11:23 AM
To: Morris CIV James S <james.s.morris@usmc.mil>; Lavrinovich Jr CIV Walter E <walter.lavrinovich@usmc.mil>; Moyer CIV Ronald R <ronald.moyer@usmc.mil>; Crawford CIV Christopher W <christopher.w.crawford@usmc.mil>; Rohm CIV John H <john.rohm@usmc.mil>; Watkin CIV Brad W <brad.watkin@usmc.mil>; Snow CIV Michael B <michael.b.snow@usmc.mil>
Cc: McDuff CIV Heather A <heather.a.mcduff@usmc.mil>; Duncan CIV Frank <frank.duncan@usmc.mil>
Subject: Training Area 12B Adjustment
Importance: High

Hello All,

Please see the attachment. Just to give a heads up, I am currently performing a review of the proposed TA 12B Adjustment location. Based on the NWI data, there are wetlands at the proposed road/firebreak footprint where it crosses North Branch. If this is verified, the road/firebreak crossing at North Branch will require a Section 404 Standard Permit because wetlands and North Branch will be impacted by the project. It must first be delineated though. I would like to visit the site in the near future if possible just to put eyes on it. Again please view the attachment. If any of you have any questions, please contact me. Thanks.

Darien Siddall
Natural Resource Specialist
NEPA Program
Natural Resources and Environmental Affairs (NREA) Environmental Planning Section
3049 Bordelon St.

purposes, we are OK with that; but it's not needed to create the new TA boundary. We are fine with going with the lowest impact on the wetlands as possible.

Thanks,
Walt

-----Original Message-----

From: Siddall CIV Darien G

Sent: Friday, June 30, 2017 11:23 AM

To: Morris CIV James S <james.s.morris@usmc.mil>; Lavrinovich Jr CIV Walter E <walter.lavrinovich@usmc.mil>; Moyer CIV Ronald R <ronald.moyer@usmc.mil>; Crawford CIV Christopher W <christopher.w.crawford@usmc.mil>; Rohm CIV John H <john.rohm@usmc.mil>; Watkin CIV Brad W <brad.watkin@usmc.mil>; Snow CIV Michael B <michael.b.snow@usmc.mil>

Cc: McDuff CIV Heather A <heather.a.mcduff@usmc.mil>; Duncan CIV Frank <frank.duncan@usmc.mil>

Subject: Training Area 12B Adjustment

Importance: High

Hello All,

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Darien Siddall

Natural Resource Specialist

NEPA Program

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Phone: 703-432-6770

Fax: 703-784-4953

DSN: 278-4030

E-mail: darien.siddall@usmc.mil

Siddall CIV Darien G

From: Stephenson, Chelsey <chelsey_stephenson@fws.gov>
Sent: Wednesday, August 9, 2017 10:27 AM
To: Siddall CIV Darien G
Subject: Re: [Non-DoD Source] Re: Submission of project review package for proposed Range 5 Rehearsal Area at Marine Corps Base Quantico, VA - Self-Certification Letter

Hi Darien,

Thanks for getting back to me and clarifying. The project is fine to go ahead with the April 15- Sept 15 TOYR for tree clearing. I have a couple comments on your Species Conclusion Tables:

- 1) For bats- the conclusion column you note "suitable habitat present but species is not present at this location." The claim that species is not present should be supported by current survey results. If you don't have a current survey it should say "suitable habitat present and no current survey conducted." Also, if you are clearing trees that could be suitable habitat for bats outside the TOYR or with a negative survey, the Section 7 determination should be "not likely to adversely affect." The idea here is that although the animal is not present, you are reducing suitable habitat for the species so there is an effect.
- 2) For harperella- please evaluate each project site for suitable habitat for harperella. Unfortunately because the harperella survey is so old, you can't be sure that the only location is still at Aquia Creek. A 'no suitable habitat' determination should be supported on a site-by-site basis such as "no perennial streams on site" or a description of an on-site stream that supports that it's not suitable for harperella.

Please feel free to give me a call or email if any of that is unclear. Thanks for working with us on these!

Best,
Chelsey

On Mon, Aug 7, 2017 at 9:42 AM, Siddall CIV Darien G <darien.siddall@usmc.mil <mailto:darien.siddall@usmc.mil> > wrote:

Chelsey,

Are there any issues further issues with the proposed action that must be addressed ? Is the proposed action allowed to proceed ? Thanks!

Darien Siddall
Natural Resource Specialist
NEPA Program
Natural Resources and Environmental Affairs (NREA)
Environmental Planning Section
3049 Bordelon St.
Phone: 703-432-6770
Fax: 703-784-4953
DSN: 278-4030

Siddall CIV Darien G

From: Stephenson, Chelsey <chelsey_stephenson@fws.gov>
Sent: Friday, August 11, 2017 9:46 AM
To: Siddall CIV Darien G
Subject: [Non-DoD Source] Re: TA12B Boundary Adjustment - Self-Certification Letter

Thanks, Darien. We have reviewed the Training Area 12B Adjustment project and have no further comments.

Chelsey

On Thu, Aug 10, 2017 at 1:47 PM, Siddall CIV Darien G <darien.siddall@usmc.mil <mailto:darien.siddall@usmc.mil> > wrote:

Hello Chelsey,

Please see the attached document. Here is my updated species conclusion table along with written documentation of coordination that I did with the action proponent for the 12B adjustment. The proposed firebreak will not include freshwater wetlands, the shoreline, streambank or any potential habitat area for the Harperella. The firebreak/road will stop at the steepest point of the slope and will not go down into the stream. Hopefully, this is what you are looking for. If there are any questions, do not hesitate to contact me. Thanks!

Darien Siddall
Natural Resource Specialist
NEPA Program
Natural Resources and Environmental Affairs (NREA)
Environmental Planning Section
3049 Bordelon St.
Phone: 703-432-6770
Fax: 703-784-4953
DSN: 278-4030
E-mail: darien.siddall@usmc.mil <mailto:darien.siddall@usmc.mil>

-----Original Message-----

From: Stephenson, Chelsey [mailto:chelsey_stephenson@fws.gov <mailto:chelsey_stephenson@fws.gov>]
Sent: Wednesday, August 9, 2017 10:27 AM
To: Siddall CIV Darien G <darien.siddall@usmc.mil <mailto:darien.siddall@usmc.mil> >
Subject: Re: [Non-DoD Source] Re: Submission of project review package for proposed Range 5 Rehearsal Area at Marine Corps Base Quantico, VA - Self-Certification Letter

Hi Darien,

Thanks for getting back to me and clarifying. The project is fine to go ahead with the April 15- Sept 15 TOYR for tree clearing. I have a couple comments on your Species Conclusion Tables:

Appendix C
Cultural Resources Survey Report

Siddall CIV Darien G

From: Roberts CIV Catherine
Sent: Wednesday, August 23, 2017 8:43 AM
To: Siddall CIV Darien G
Subject: project summaries
Signed By: catherine.roberts@usmc.mil

COCO station

One transect (10 meter intervals) was used to test a 4.7 acre area designated for the construction of the COCO station. There were no positive STPs. No cultural resources were located on the surface; no further testing is needed in this area.

12B Realignment

A previous survey was conducted in the area of 12B. No cultural resources were found; no further work in this area is needed.

Range 5 Rehearsal Area

Two transects at 10 meter intervals were used to test 13 acres south of range 5. There were no positive STPs and no visible historic resources located on the surface. No further work is needed in this area.

Marine Corps Base Quantico
Archaeologist
703 432 6781

Appendix D
Erosion and Sedimentation Control Forms

Siddall CIV Darien G

From: Steinbacher CIV Kasey J
Sent: Tuesday, July 11, 2017 8:16 AM
To: Siddall CIV Darien G
Subject: RE: Proposed TA12B Adjustment
Attachments: ESC Short Form.pdf
Signed By: kasey.steinbacher@usmc.mil

Darien,

An E&SC short form is required. Please ensure the attached application is filled out and all applicable documents listed on the application are returned to NREA for review and approval prior to land disturbance. Please allow 45 days for application review.

Thanks,
Kasey

-----Original Message-----

From: Siddall CIV Darien G
Sent: Friday, July 07, 2017 1:37 PM
To: Steinbacher CIV Kasey J; Sullivan CIV Jonmark R; Morphis CIV Seth; Hagwood CIV Wayne; Porter CIV Marilisa; Roberts CIV Catherine; Ventura CIV Brian J; Rohm CIV John H; Watkin CIV Brad W
Cc: McDuff CIV Heather A; Duncan CIV Frank; Denn CIV Amy P; Grose David J
Subject: RE: Proposed TA12B Adjustment
Importance: High

Hello Team,

Please see the attached map. Just some clarification on the proposed TA12B Adjustment. The only tree removal and new construction will be for the firebreak which will connect run from the slope of North Branch to SR-618. The total length of the firebreak is .26 miles. The new boundary will follow existing but disconnected trails from MCB-1 to SR-618. There will not be a crossing at North Branch as RMB only wants this firebreak to form a connection to SR-618 and help form a continuous boundary and alert people (signage will be there) that they are entering another training area (that could be live) plus there are wetlands in the area. The only individuals using the trails within the firebreak will be forestry when they are trying to get to forest fires. The firebreak is the hatch, green shapefile on the map. Again, the new boundary will allow TA12B to be utilized for maneuver training or even hunting if the R-14 series and WTBN ranges are hot. I will need responses from each of you on the following:

JonMark and Kasey - Any water issues
Seth - Air Quality issues.
Wayne - Any Hazardous waste issues.
Brian - Munitions issues/UXO's

Short Form Erosion and Sediment Control Plan

Project: _____

Project Manager: _____

Responsible Land Disturber: _____

Land Area to be Disturbed _____ (acres or square feet)

The following information is required:

1. Describe the nature, purpose, and scope of land disturbing activity
2. List all E&SC practices that will be required during all land-disturbing activities provided on the next two pages. Responsible Land Disturber (RLD) should sign the acknowledgement.
3. Provide a Site Map with description of E&SC practices.

Map must include the following:

- Indicate North
- Indicate all areas that are to be cleared and graded.
- Show all improvements such as buildings, parking lots, access roads, utility construction, etc.
- Show the locations of all erosion and sediment controls and stormwater management practices used on the site.
- Show existing and final contour lines and drainage divides.

Recommended Plan Symbols:

STONE CONSTRUCTION ENTRANCE	CE		EXISTING CONTOUR	
SILT FENCE	SF		FINISHED CONTOUR	
STORM DRAIN INLET PROTECTION	IP		LIMITS OF DISTURBANCE	
TEMPORARY DIVERSION DIKE	DD		DRAINAGE DIVIDE	
OUTLET PROTECTION	OP		STORM SEWER	
RIP RAP	RR			
ROCK CHECK DAMS	CD			
TREE PROTECTION	TP			

4. Describe any off-site land-disturbing activities that will occur (including borrow sites, stockpiles, etc.)
5. Identify all post-construction maintenance requirements and responsible party for effecting all actions.
6. A valid RLD certificate shall be provided with this application for the RLD that will be onsite supervising land disturbing activities.

Erosion and Sediment Control Notes:

1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site.
2. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days.
3. Permanent stabilization shall be applied within seven days to areas that are to be left dormant for more than one year.
4. During construction of the project, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures.
5. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.
6. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized.
7. Permanent vegetation shall not be considered established until a ground cover is achieved that, is uniform, mature enough to survive and will inhibit erosion. This includes the stipulations of at least two 3” grass cuttings and at least 90% uniform coverage across the entire site.
8. All measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
9. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.
10. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion.
11. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.
12. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.
13. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
14. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.
15. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.
16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
 - a. No more than 500 linear feet of trench may be opened at one time.
 - b. Excavated material shall be placed on the uphill side of trenches.
 - c. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
 - d. Restabilization shall be accomplished in accordance with the current edition of the VESCH.
 - e. Applicable safety regulations shall be complied with.

17. Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface.
18. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day.
19. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner.
20. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority.
21. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.
22. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system.
23. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
24. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.
25. All Land Disturbing Activities aboard MCB Quantico will be conducted in accordance with the current edition of the Virginia Erosion and Sediment Control Law and Regulations (VESCLR) and the Virginia Erosion and Sediment Control Handbook, 1992 Edition (VESCH). A copy of the handbook and the approved E&SC Plan will be kept on-site at all times.
26. Inspections shall be conducted at least once every 14 calendar days **and** within 48 hours of a rain event producing 0.5" or rain or greater. All inspections shall be kept in an inspection log, present at the jobsite at all times, and available for inspection upon request.
27. Inspection reports shall include the following:
 - a. name(s) and qualifications of personnel making the inspection, and the date(s) of the inspection
 - b. major observations relating to the implementation of the SWPP plan
 - c. the location(s) of discharges of sediment or other pollutants from the site
 - d. location(s) of BMPs that need to be maintained
 - e. location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location
 - f. location(s) where additional BMPs are needed that did not exist at the time of inspection
 - g. Incidents of noncompliance
 - h. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit
 - i. Signature of inspector
28. If at any time an E&SC structure and/or device is found to be in need of maintenance or repair, the structure shall be repaired and/or replaced as needed immediately, or as soon as practical; however, all repair and/or replacement of controls shall be completed within 7 days of initial finding of deficiency, or before next anticipated storm event, whichever time period is shorter.

29. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the permittee must replace or modify the control for site situations immediately.
30. Sediment must be removed from sediment traps, sedimentation ponds and all other sediment trapping devices when design capacity has been reduced by 50%.

This Plan is not applicable to projects with the following characteristics:

1. Project requires a sediment trap or basin.
2. Work will be performed in live watercourses.
3. Work will be performed in any areas that could potentially be characterized as wetlands.
4. Project will involve de-watering operations.
5. Project will increase peak flows rates of stormwater runoff, add additional impervious area, or create new drainage channels.
6. Existing conditions at the project site have inadequate stormwater management measures.

Responsible Land Disturber's Acknowledgement:

Signature

(Date)

Print Name

Title

Appendix E
Construction Waste Management Report

Construction Waste Management Report Quantico Marine Corps Base

Report Date: _____
 Project Number: _____ Project Name: _____
 Contract Number: _____ Contract Task Order/Delivery Order: _____
 Reporting Period: _____ to _____

**SUBMIT THIS FORM BY FAX TO (703) 784-4953, OR BY EMAIL TO: Marilisa Porter
 at marilisa.porter@usmc.mil or call (703) 432-0522**

Comments: _____

Waste Stream	Disposal (Tons)	Disposal Cost	Recycled (Tons)	Recycled Cost	Recycled Revenues
C&D		\$		\$	\$

CONSTRUCTION & DEMOLITION DEBRIS (C&D).

- Record hazardous and non-hazardous C&D waste as one entry. Enter total tons of C&D disposed of in a landfill, by incineration, and/or by hazardous waste contract.
- Enter total disposal cost for C&D.
- Enter the recycled hazardous and non-hazardous C&D tons as one entry under the recycling column. You can also claim C&D diversion conducted by a construction contractor or MILCON project. If you have recycled C&D, it is likely that some was disposed of as well. Therefore, if there are recycled tons of C&D there should be some disposed tons of C&D.
- Enter the cost associated with recycling. Recycling costs include handling, processing, transportation, and other costs associated with recycling C&D. Soils that are used at another location or that are reclaimed count toward recycling.
- Enter Recycling Revenues. Enter only actual revenues received from recycling. Do not enter cost avoidance for recycling revenues.

Reported by: _____
 Company: _____ Contact: _____
 Address: _____ Title: _____
 _____ E-mail address: _____
 Telephone: _____ Fax: _____

Definitions:

Construction and Demolition (C&D) Debris. Waste derived from the construction, renovation, demolition or deconstruction of residential and commercial buildings and their infrastructure. C&D waste typically includes concrete, wood, metals, gypsum wallboard, asphalt, and roofing material.

Other Select Waste (OSW). Construction and demolition debris are the “Other Select Waste” categories for purposes of DoD metric reporting via SW module. If the Other Select Wastes are hazardous they must also be reported in the calendar year HW module.