DRAFT

Environmental Assessment (EA)

Of the Proposed Construction and Operation of a Multi-Purpose Machine Gun (MPMG) Range at the McCrady Training Center (MTC),

South Carolina Army National Guard (SCARNG)

Fort Jackson

Richland County, South Carolina

FUNDING: MILCON

MILCON PROJECT NUMBER: 450377

FISCAL YEAR: FY 2024

South Carolina Army National Guard

1 National Guard Road

Columbia, SC 29201

Environmental Assessment Organization

This Environmental Assessment (EA) analyzes the potential physical, environmental, cultural, and socioeconomic effects of the South Carolina Army National Guard's (SCARNG) and the Army National Guard - Environmental Programs Division's (ARNG-IEE-E) proposed construction and operation of an Army-standard Multi-Purpose Machine Gun (MPMG) Range at the McCrady Training Center (MTC) in Eastover, Richland County, South Carolina. The MTC occupies approximately 15,000 acres of the eastern third of the Fort Jackson footprint and is licensed to the SCARNG by the Department of the Army (DA). The MTC is the primary training facility for the SCARNG.

As required by the National Environmental Policy Act (NEPA) of 1969 (NEPA; 42 United States Code [USC] 4321 et seq.) and DoD's NEPA Implementing Procedures, the potential effects of this Proposed Action are analyzed. This EA will facilitate the decision-making process by the Department of Army (DA) at Fort Jackson, the SCARNG, and ARNG-IEE-E regarding the Proposed Action and its considered alternatives, and is organized as follows:

- SECTION 1. PURPOSE OF AND NEED FOR THE PROPOSED ACTION. Summarizes the purpose of and need for the Proposed Action, provides relevant background information, and describes the scope of the EA.
- SECTION 2. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES. Describes the Proposed Action and presents alternatives for implementing the proposed action, including applied screening criteria, alternatives retained for further analysis, and alternatives eliminated.
- SECTION 3. AFFECTED ENVIRONMENT. Describes relevant components of the existing physical, environmental, cultural, and socioeconomic setting of the considered alternatives.
- SECTION 4. ENVIRONMENTAL CONSEQUENCES. Identifies individual and reasonably foreseeable potential physical, environmental, cultural, and socioeconomic effects of implementing the considered alternatives; and identifies proposed mitigation and management measures, as and where appropriate.
- SECTION 5. COMPARISON OF ALTERNATIVES AND CONCLUSIONS. Compares the environmental effects of the two considered alternatives and summarizes the significance of expected individual and reasonably foreseeable effects from these alternatives.
- SECTION 6. REFERENCES. Provides bibliographical information for cited sources.
- SECTION 7. GLOSSARY. Provides a list of definitions for technical terms used in the EA.
- SECTION 8. LIST OF PREPARERS. Identifies document preparers and their areas of expertise.
- SECTION 9. AGENCIES AND INDIVIDUALS CONSULTED. Lists agencies and individuals consulted during preparation of this EA.

ENVIRONMENTAL ASSESSMENT SIGNATURE PAGE

LEAD AGENCY:	South Carolina Army National Guard
COOPERATING AGENCIES:	None
TITLE OF PROPOSED ACTION:	Proposed Construction and Operation of a Multi-Purpose Machine Gun Range, at the McCrady Training Center, Eastover, Richland County, South Carolina
POINT OF CONTACT:	Virginia Theriot, NEPA/ECP Manager; virginia.theriot@scmd.sc.gov
PROPONENTS:	SCARNG & Army National Guard - Environmental Programs Division
PROPOSED IMPLEMENTATION:	Fiscal Years 2024

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DOCUMENT DESIGNATION: **Draft Environmental Assessment (EA)**

ABSTRACT: This Environmental Assessment (EA) analyzes the potential physical, environmental, cultural, and socioeconomic effects of the South Carolina Army National Guard's (SCARNG) and the Army National Guard - Environmental Programs Division's (ARNG-IEE-E) proposed construction and operation of an Army-standard Multi-Purpose Machine Gun (MPMG) Range at the McCrady Training Center (MTC) in Eastover, Richland County, South Carolina (see Figure 1).[1] The MTC occupies approximately 15,000 acres of the eastern third of the Fort Jackson footprint and is licensed to the SCARNG by the Department of the Army (DA). The MTC is the primary training facility for the SCARNG.

This EA discusses two alternatives: the Preferred Action Alternative and the No Action Alternative. This EA evaluates possible effects to land use; air quality; the noise environment; geology, topography, and soils (including erosion and sedimentation); water resources and wetlands; biological resources (including vegetation, wildlife, and threatened and endangered species); cultural resources; socioeconomics; infrastructure (including utilities and traffic and transportation); and hazardous and toxic materials and wastes (HTMW).

The EA concludes there would be no significant adverse direct, or indirect impact to the environment or quality of life associated with implementing the Preferred Action Alternative, provided the mitigation measures and routine management measures (i.e., best management practices) as specified in this EA are implemented. Therefore, this EA concludes that a mitigated Finding of No Significant Impact (FNSI) is appropriate, and that an Environmental Impact Statement (EIS) is not required.

[1] The ARNG is a Directorate within the National Guard Bureau (NGB).

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Acronyms

A	
ACHP	Advisory Council on Historic Preservation
AIRFA	American Indian Religious Freedom Act
APE	Area of Potential Effect
AR	Army Regulation
ARPA	Archaeological Resources Protection Act
ARRM	Army Range Requirements Module
ARNG-IEE	Army National Guard Environmental Branch
ATS	Automated Target Systems
B	
BA	Biological Assessment
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
BO	Biological Opinion
C	
CFR	Code of Federal Regulations
CO	Conference Opinion
CX	Categorical Exclusion
D	
DA	Department of Army
DoD	Department of Defense
DPW	Department of Public Works
DA PAM	Department of Army Pamphlet
E	
EA	Environmental Assessment
EBS	Environmental Baseline Survey
EIA	East Impact Area
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESMC	Endangered Species Management Component
ESMP	Endangered Species Management Plan
F	
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FNSI	Finding of No Significant Impact
G	
GIS	Geographic Information System
H	
HTMW	Hazardous Materials and Waste
I	
ICRMP	Integrated Cultural Resource Management Plan

IDT	Inactive Duty Training
IICEP	Interagency/Intergovernmental Coordination for Environmental Planning
INRMP	Integrated Natural Resource Management Plan
M	
MBTA	Migratory Bird Treaty Act
MCOC	Munitions Constituents of Concern
MILCON	Military Construction
MPMG	Multipurpose Machine Gun
MTC	McCrady Training Center
N	
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NGB	National Guard Bureau
NGR	National Guard Regulation
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
O	
ONMP	Operational Noise Management Plan
P	
POL	Petroleum, Oil and Lubricants
PSS	Pre-Construction Site Selection
R	
RCPC	Richland County Planning Commission
RCW	Red-cockaded Woodpecker
RMTK	Range Managers Toolkit
ROCA	Range Operations and Control Area
RTA	Regional Transit Authority
S	
SAT	Stationary Army Target
SCARNG	South Carolina Army National Guard
SCDES	South Carolina Department of Environmental Services
SCDNR	South Carolina Department of Natural Resources
SCSHPO	South Carolina State Historic Preservation Office
SDZ	Surface Danger Zone
SIT	Stationary Infantry Target
SME	Subject Matter Expert
SWCD	Soil and Water Conservation District
SWPPP	Stormwater Pollution Prevention Plan
T	
TC	Training Circular
TCB	Tricolored Bat
T&E	Threatened & Endangered

U

USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USC	United States Code

V

VSQG	Very Small Quantity Generator

SECTION 1: PURPOSE, NEED, AND SCOPE

1.1 Introduction

This EA analyzes the potential physical, environmental, cultural, and socioeconomic effects of the SCARNG and the ARNG-IEE-E proposed construction and operation of an Army- standard MPMG Range at the MTC in Eastover, Richland County, South Carolina (see Figure 1). The MTC occupies approximately 15,000 acres of the eastern third of the Fort Jackson footprint and is licensed to the SCARNG by the DA. The MTC is the primary training facility for the SCARNG.

The South Carolina Army National Guard (SCARNG) has had a license for the MTC since August 1986. It is believed the SCARNG had a real estate agreement prior to 1986 but the only documentation found to support that is an out-grant dated 1969. In February 2001, a Memorandum of Agreement (MOA) was signed between the Commanding General, United States Army Training Center, Fort Jackson (USATC, FJ) and The Adjutant General (TAG) South Carolina National Guard (SCNG) establishing conditions and operational procedures.

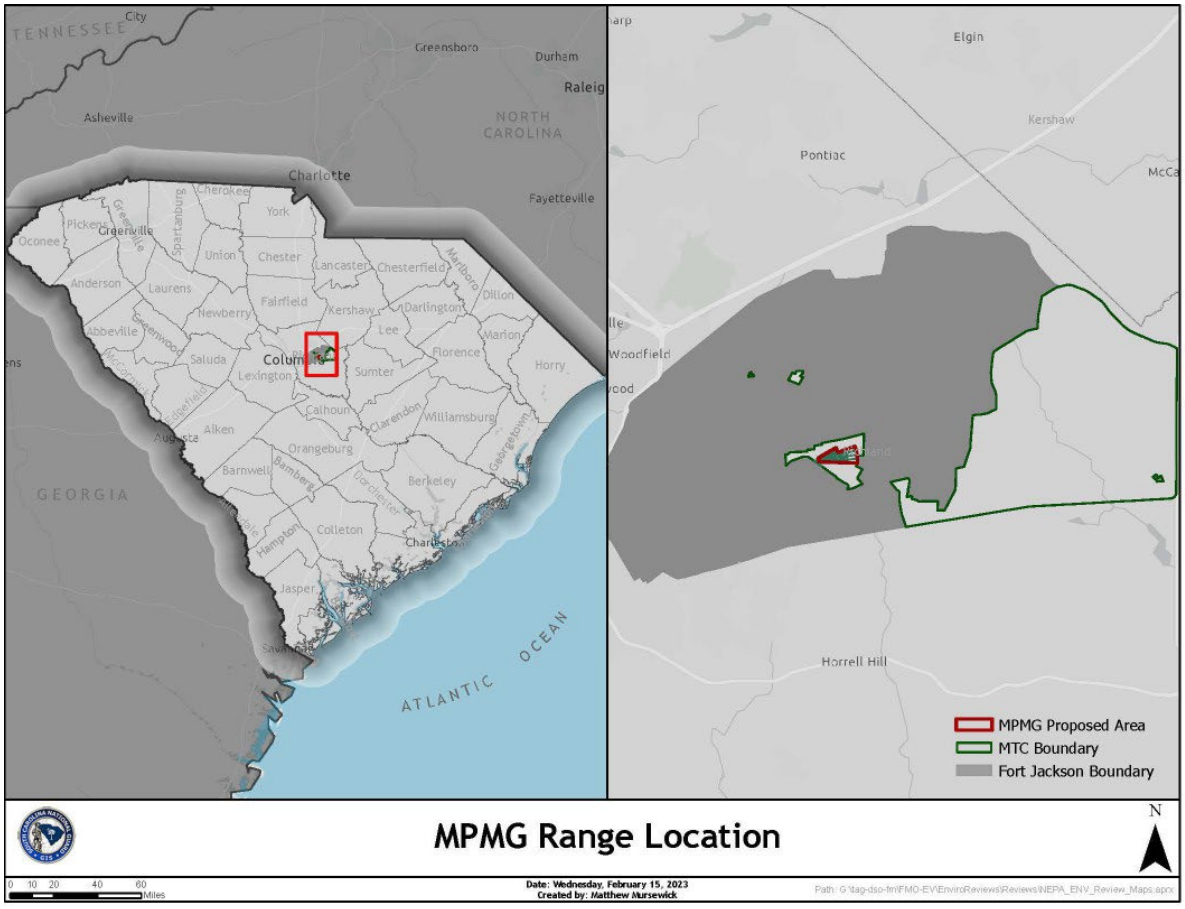

Figure 1: MPMG proposed location at MTC on Fort Jackson in Richland County, SC

The SCARNG plans to construct a standard-design (FCC 17833) MPMG with automated target systems (ATS) on MTC. The proposed MPMG Range (MILCON 450377) would be constructed within previously disturbed areas. The proposed MPMG range is located on an active military training base and there are currently three active shooting ranges, including the Argentan, Main Tank, and Wanat Ranges, all located within the SDZ and within 2600 yards of the proposed range footprint. The existing Main Tank Range overlaps the northern edge of the MPMG footprint (Figure 2).

Approximately 90 acres of the proposed range footprint is mixed pine-hardwood forest planted in 2003 in rows and managed by Fort Jackson's prescribed fire program and mowing practices. These areas are also cut by multiple firebreaks and roads and interspersed with several other existing ranges. Figure 4 below illustrates the proposed clearing plan, the 90 acres of planted pines, the duded impact area with the 1949 SDZ War Department Map which shows the historical footprint of ranges and access roads in the Proposed Action area (Figure 3).

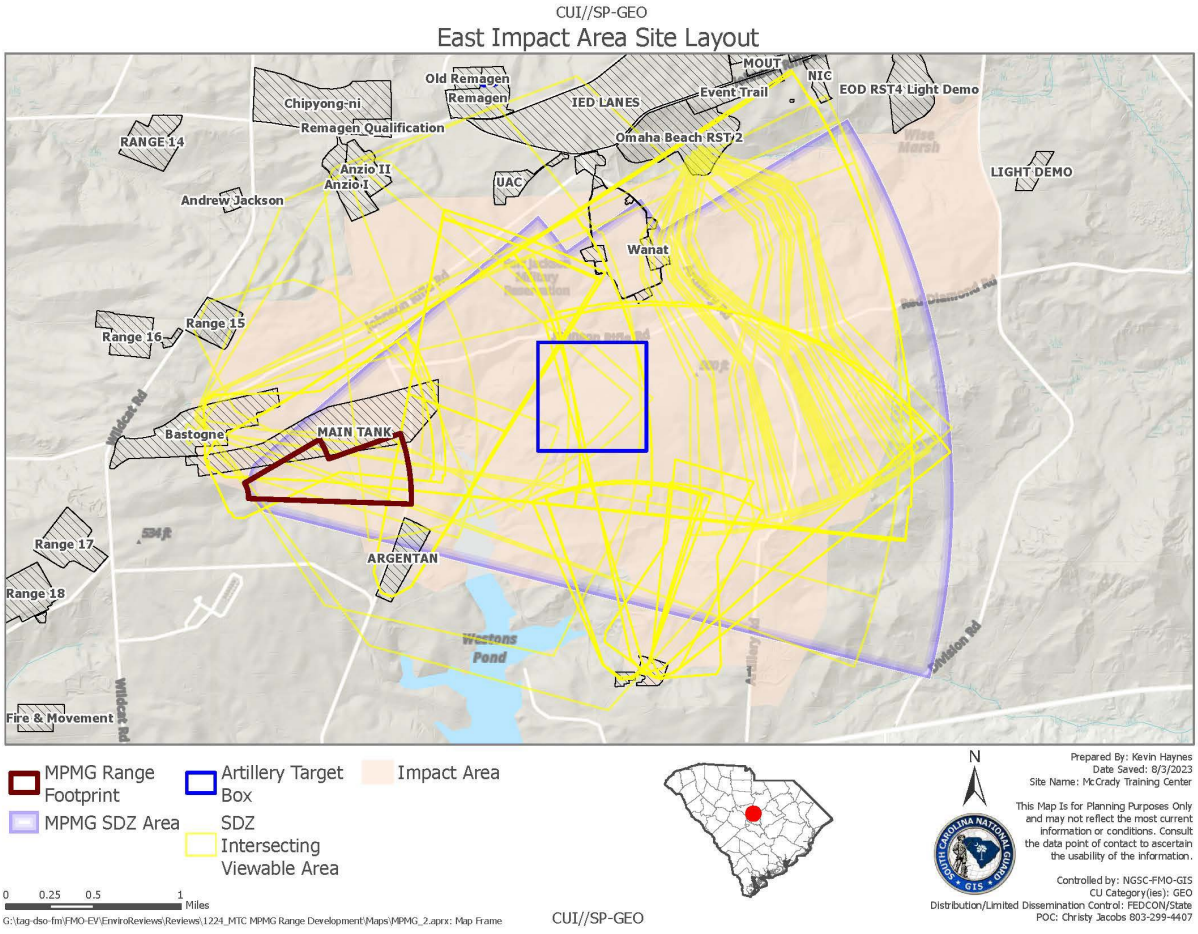

Figure 2: Fort Jackson East Impact Area Site Layout

The proposed MPMG is based on the latest design guidance from the U.S. Army Corps of Engineers Range Design Guide- MPMG and Training Circular (TC) 25-8 *Training Ranges*. The design for the proposed MPMG has been finalized and it is not anticipated that the project will expand beyond the footprint described in this document.

Per 10 USC § 10501, the NGB is a joint activity of the DoD and is responsible for ensuring that ARNG activities are performed in accordance with applicable policies and regulations. NGB is the lead federal agency for SCARNG NEPA actions. The NGB is ultimately responsible for NEPA compliance; however, SCARNG has local responsibility for NEPA document preparation and public outreach.

ARNG-IEE-E is division within the ARNG Directorate, a component of the National Guard Bureau (NGB). NGB is a federal agency, and the SCARNG is a state agency supported by Federal funding. ARNG- ILE controls the Federal funds that would be used to implement this Proposed Action. As such, ARNG-IEE-E is the Federal decision-maker for this Proposed Action. The DA, as the Federal land owner of Fort Jackson (and the MTC), also participates in this decision-making process. The Garrison Commander, Fort Jackson, is the approving Federal official for the DA for this Proposed Action pursuant to DoD's NEPA Implementing Procedures, as the Proposed Action involves land licensed from the DA by the SCARNG. The Fort Jackson Garrison Commander will co-sign the Finding of No Significant Impact (FONSI) for this proposed action along with ARNG-IEE-E.

The Proposed Action is described in greater detail in Section 2; components of the proposed range included in the Proposed Action are summarized in Table 1.

1.2 Purpose and Need

The purpose of the Proposed Action is to provide the SCARNG with adequate, doctrinally correct throughput capability for: M60 Machine Gun (MG), M240B MG, M249 SAW, MK19 40mm MG, and M24 Sniper Rifle. The proposed MPMG Range (MILCON #450377) would be constructed within previously disturbed areas, including former and active range areas.

The Proposed Action is needed to provide a facility to train on Crew-served weapons. SCARNG does not possess its own MPMG. A MPMG Range does not currently exist within South Carolina. Currently on Inactive Duty Training (IDT) weekends personnel must travel to active-duty locations at least 3 hours (each way) at Ft. Eisenhower (formerly Ft. Gordon), Ft. Stewart, Georgia, or Ft. Liberty (formerly Ft. Bragg), North Carolina. The use of 6 or more hours for traveling for each training session reduces valuable training time on IDT weekends that could be used for meeting other training requirements, if a closer training location were available. There are no other MPMG ranges within 2 hours travel distance that meet qualification requirements.

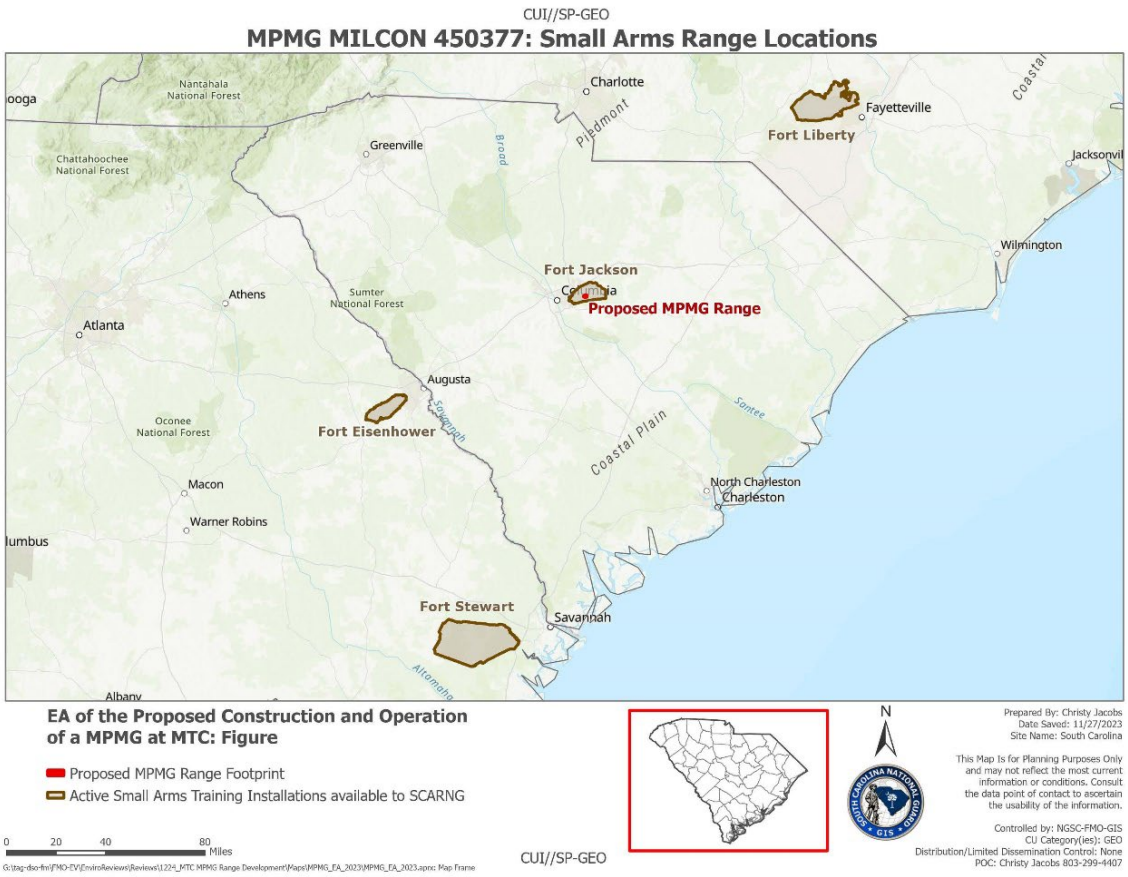

Figure 3: Active-Duty Locations for Qualification Requirements

The Proposed Action would ensure the SCARNG provides a complete, sustainable, and viable training facility for its Soldiers to attain and maintain a full readiness posture. Implementation of the Proposed Action would support higher quality, mission-essential training activities at the MTC, while limiting the need for out- of-state travel.

1.3 Scope of the EA

SCARNG developed this EA in accordance with the National Environmental Policy Act (NEPA; 42 United States Code [USC] 4321 et seq.) and DoD's NEPA Implementing Procedures.

The SCARNG and ARNG-IEE-E have prepared this EA to analyze the potential impacts of the construction and operation of the proposed MPMG Range and to inform the public as required by NEPA. Specifically, potential exists for effects to environmentally sensitive resources, including potential effects to Federal-listed species.

This EA evaluates the potential direct, indirect, and cumulative physical, environmental, cultural, and socioeconomic effects of the Preferred Action Alternative and the No Action Alternative. Descriptions of the Preferred Action Alternative and the No Action Alternative, as well as alternatives eliminated from

detailed analysis, are provided in Section 2. MTC is the only SCARNG controlled property with sufficient land and infrastructure to support the proposed MPMG construction and operation. The Preferred Action Alternative and the No Action Alternative are defined as follows:

- **No Action Alternative** - Do not implement the Proposed Action and continue operating under current conditions, including conducting mission-required weapons training and qualification at Ft. Eisenhower (formerly Ft. Gordon), Ft. Stewart, Georgia, or Ft. Liberty (formerly Ft. Bragg), North Carolina.
- **Preferred Action Alternative** – Implement the Proposed Action as summarized above and described in Table 1.

A detailed description of the Proposed Action is provided in Section 2 and summarized in Table 1. Descriptions of the Preferred Action Alternative and the No Action Alternative, as well as alternatives eliminated from detailed analysis, are provided in Section 2.

Technical Resource Areas analyzed in this EA include: land use; air quality; noise; geology, topography, and soils; water resources and wetlands; biological resources, including vegetation, wildlife, and protected species; cultural resources; socioeconomics, infrastructure, including utilities and traffic and transportation; and Hazardous and Toxic Materials and Wastes (HTMW).

As specified under NEPA Regulations, a monetary cost-benefit analysis is not required as part of the EA. The Proposed Action and its alternatives have been developed based on military mission requirements. As such, no quantitative financial assessment has been performed as part of this EA.

1.4 Decision-Making

The purpose of this EA is to inform Federal decision-makers and the public of the potential environmental effects of the Proposed Action and its considered alternatives, prior to making a federal decision to move forward with the Proposed Action. In this manner, Federal decision makers can render a fully informed decision, aware of the potential environmental effects of the Proposed Action.

This Federal decision making includes identifying the actions that the Government will take to minimize environmental effects, as required under the NEPA and DoD's NEPA Implementing Procedures.

The decision to be made is whether, having taken potential physical, environmental, cultural, and socioeconomic effects into account, the SCARNG should implement the Proposed Action and, as appropriate, carry out measures to reduce effects on resources. ARNG-IEE-E, working with the SCARNG, will ultimately decide if the action is funded and constructed. The Department of Army at Fort Jackson will also participate in this decision-making process concerning implementation of the Proposed Action. The Fort Jackson Garrison Commander will co-sign the Finding of No Significant Impact (FONSI) for this proposed action along with ARNG-IEE-E.

1.5 Public and Agency Involvement

Public and agency participation are critical components of the planning process. The SCARNG is coordinating with a variety of agencies prior to making any decision on the Proposed Action. This section describes the initial and continued efforts to engage these groups during design development to help ensure

decisions are made in consideration of public preferences. The continued engagement remains critical to the successful identification and design refinement of a recommended preferred alternative.

1.5.1 Agency Coordination

Federal, State, and local agencies were sent initial scoping letters requesting comments, on a project involving multiple new ranges (Range Development Plan), including MPMG, which were sent in 2011. This scoping letter briefly described the Proposed Action and detailed the NEPA documentation for this project. Due to a lack of funding, and postponement of the project, the 2011 NEPA documentation was never completed. The proposal was reinitiated in 2020 and continued into 2023 for the construction of just this proposed MPMG range.

Agencies the SCARNG coordinated with as part of this EA include the:

United States Fish and Wildlife Service (USFWS) Region 4

An initial scoping letter requesting comments from the USFWS on a project involving multiple new ranges (Range Development Plan), including MPMG, was sent on 21 November 2011. The Interagency/Intergovernmental Coordination for Environmental Planning (IICEP) letter briefly described the Proposed Action and detailed the EA for this project. The USFWS responded in letter reference FWS-2012-I-0063. Due to a lack of funding, and postponement of the project, the EA was never completed. SCARNG reinitiated informal consultation on March 30, 2020 for the construction of just this proposed MPMG range. Fort Jackson sent a draft Biological Assessment (BA) to the Charleston Field Office on 24 April 2023. A request for additional information was emailed to Fort Jackson on 24 May 2023. The additional information was returned to USFWS on 22 June 2023 and an in-person meeting was held between USFWS, Fort Jackson and SC Army National Guard staff to discuss the project on 27 June 2023. An on-line meeting was held on 26 July 2023 to discuss Tricolored bats (TCBs), this meeting included USFWS, Ft Jackson and SC Army National Guard. Formal consultation was initiated on March 11, 2024 and the USFWS Conference Opinion (CO) was issued on August 7, 2024. Based on USFWS guidance and the analysis, the CO determines the construction and operation of the MPMG ‘may affect and is likely to adversely affect’ the Tri-colored bat (Proposed endangered species) and ‘may affect but is not likely to adversely affect’ the RCW (Threatened species). Based on the December 2024 proposed rule to change the listing of the Monarch butterfly from ‘Candidate’ to ‘Proposed Threatened’, the environmental team sent a request to USFWS to confirm the determination for the species in the 2023 BA was sufficient. On April 16, 2025, USFWS informally responded that since the Monarch Butterfly is proposed and does not have the full protection of a listed species under the ESA, we do not need to consult, at this time. Additionally, they responded that they do not have any voluntary conservation measures that would be relevant to the project.

United States Environmental Protection Agency (USEPA)

On October 12, 2023, the SCARNG sent a scoping letter describing the project and a summary of the environmental analysis. A request to review the draft EA when available was received on December 13, 2023.

United States Army Corps of Engineers (USACE) Charleston District

On October 12, 2023, the SCARNG sent a scoping letter describing the project and a summary of the environmental analysis. No comment received.

South Carolina Department of Environmental Services (SCDES)

On October 12, 2023, the SCARNG sent a scoping letter describing the project and a summary of the environmental analysis. Based on the SCDHEC (now SCDES) response, the proposed range was evaluated to determine if an air quality permit would be required. Through the analysis, SCDES determined the proposed MPMG range is exempt from the requirement to obtain an air quality permit or submit air dispersion modeling, for all possible purposes. Other recommendations included coordination with the Bureau of Land & Waste Management to ensure RCRA compliance and coordination with the Bureau of Water on the Stormwater Pollution Prevention Plan (SWPPP). In accordance with the NPDES General Permit for Stormwater Discharges from Construction Activities SCR100000 Construction General Permit (CGP), the MPMG was granted coverage under the CGP on May 16, 2025. The project's general permit coverage number is SCR10ZHMS.

South Carolina Department of Natural Resources (SCDNR) Region 3 - Wildlife and Freshwater Fisheries Division, Land, Water, and Conservation Division

On October 12, 2023, the SCARNG sent a scoping letter describing the project and a summary of the environmental analysis. DNR's response included recommendations for best management practices (BMPs) including appropriate erosion control measures, expeditious construction, limitation of vegetation removal, and use of native vegetation. These recommendations have been noted and will be incorporated, where appropriate.

State Historic Preservation Office (SHPO)

On 13 December 2011 and 12 December 2019, South Carolina SHPO concurred, in writing, with the finding that no historic properties or archaeological resources listed on or eligible for listing on the NRHP would be affected by the Proposed Action. In addition, 13 federally recognized tribes were consulted in 2011 and again in 2019. Responding tribes did not identify any concerns regarding the Proposed Action, unless an inadvertent discovery of cultural materials is made during construction. As such, no effects to cultural resources would be anticipated.

Richland County Planning Commission (RCPC)

On October 12, 2023, the SCARNG sent a scoping letter describing the project and a summary of the environmental analysis. No comment received.

Central Midlands Regional Transit Authority (CMRTA)

On October 12, 2023, the SCARNG sent a scoping letter describing the project and a summary of the environmental analysis. No comment received.

Richland County Soil and Water Conservation District (SWCD)

On October 12, 2023, the SCARNG sent a scoping letter describing the project and a summary of the environmental analysis. No comment received.

Copies of sent and received correspondence are provided in Appendix A.

The issues and concerns identified by responding agencies have been fully incorporated into this EA's analysis, as and where appropriate. The SCARNG will send the Final EA to agencies that have indicated an interest in the Proposed Action. Any comments provided will be considered and addressed as part of the Federal decision-making process.

1.5.2 Native American Consultation/Coordination

Per the 2020 SCARNG Integrated Cultural Resources Management Plan (ICRMP) and the SCARNG's established procedures for consulting with 13 federally recognized Native American Tribes having ancestral ties to the Proposed Action footprint, the SCARNG sent a consultation letter to each Tribe at the beginning of this NEPA process to solicit Tribal input. The SCARNG will also provide each Tribe with a copy of all draft NEPA documentation for review and comment. A list of these 13 Tribes is presented in Appendix A.

The SCARNG conducted all Tribal correspondence and data provision by certified letters. A sample letter sent to the Tribes and their full responses are included in Appendix A. The SCARNG will send the Final EA to all federally recognized Tribes that have indicated that interest in the Proposed Action. Any comments provided by the Tribes during their review of the Final EA will be considered and addressed as part of the Federal decision-making process.

1.5.3 Public Participation

The SCARNG, as the proponent of the Proposed Action, will publish and distribute the Final EA and Draft FNSI for a 30-day public comment period, as announced by a NOA published as a display advertisement in The Post and Courier. During this period the public may submit comments on the EA and the draft FNSI. The EA and the draft FNSI can be accessed at https://scmd.sc.gov/environmental.

Based on comments received from the public review of the Final EA and Draft FNSI, the SCARNG and ARNG-IEE-E will directly respond to comments, and will describe these comments and their decision-making within the FNSI, if a FNSI is appropriate. As appropriate, the ARNG-IEE-E may then execute the FNSI and proceed with the implementation of the Proposed Action. As this Proposed Action would occur on land licensed to the SCARNG by Fort Jackson, the Garrison Commander of Fort Jackson would also sign the FNSI as the responsible Federal land owner (Federal official) in accordance with DoD's NEPA Implementing Procedures.

If it is determined that implementation of the Proposed Action would result in significant adverse, unmitigable impacts (i.e., impacts that cannot be reduced to less-than-significant levels), the SCARNG and ARNG-IEE-E will publish in the **Federal Register** a NOI to prepare an EIS, or will not implement the action or the portion of the action resulting in significant effects.

Throughout this NEPA process, the public may obtain information on the status and progress of the EA through the SCARNG NEPA MANAGER, Mrs. Virginia Theriot, at 803-730-2178 or virginia.theriot@scmd.sc.gov.

1.6 Related NEPA, Environmental, and Other Documents and Processes

Several existing environmental and other related documents were reviewed as part of the preparation of this EA, and are referenced as appropriate throughout this EA.

The documents contain information used in the preparation of this EA and include:

- SCARNG Statewide ICRMP (SCARNG 2020).
- Integrated Natural Resources Management Plan (INRMP) for the MTC (SCARNG 2023).
- Fort Jackson Operational Noise Management Plan (ONMP; USACHPPM 2015).
- South Carolina Army Range Requirements Module (ARRM) 2011 Report (SCARNG 2011a).
- Red-Cockaded Woodpecker (Picoides borealis) Endangered Species Management Plan (ESMP) for Fort Jackson (SCARNG 2000; USFWS 2001).
- Department of Defense. 2024. Biological Assessment for the Proposed Construction and Operation of the Multipurpose Machine Gun Range, McCrady Training Center on Fort Jackson, SC.
- United States Fish and Wildlife Service. 2024. Conference Opinion for the Proposed Construction and Operation of the Multipurpose Machine Gun Range, McCrady Training Center on Fort Jackson, South Carolina

1.7 Regulatory Framework

The South Carolina Department of Environmental Services (SCDES) NPDES permitting program requires a construction permit for range construction. Permits required for construction would include an NPDES Storm Water General Permit (Permit No. SCR100000) for Storm Water Discharges from Large or Small Construction Activities in South Carolina, including preparation, submission, review, and approval of a NOI and SWPPP (via the DHEC) prior to initiation of construction. The NPDES permit would include identification and implementation of BMPs such as minimization measures to reduce dust on roads and minimize erosion from stormwater runoff in the construction area. Approval of a site-specific Erosion Control Management Plan may also be required by SCDHEC.

In addition, the SCARNG would comply with their current onsite and statewide BMPs to avoid adverse effects to natural and cultural resources during project construction and operation in accordance with their INRMP for the MTC (SCARNG 2023) and ICRMP (SCARNG 2020). For example, any inadvertent discoveries of cultural resources during construction would be addressed per the ICRMP, including stopping work, reporting the discovery to the SCARNG Cultural Resources Manager, and consulting the SHPO, as appropriate. Construction and operational noise associated with the Proposed Action would comply with Fort Jackson's ONMP (USACHPPM 2007; USACHPPM 2009); all construction and operational activities would also comply with Fort Jackson Range Regulation 350-14 (Training Post Training Land and Range Regulation) and Regulation 350-1 (Training and Training Support). Compliance with these routine BMPs, management plans, and onsite regulations would ensure that potential biological, cultural, and other environmental effects are minimized.

Prior to the conduct of any Proposed Action component, the SCARNG would obtain all required Federal, State, and local permits and approvals necessary to comply with applicable laws, including coordination with interested agencies.

Land improvement activities associated with the Proposed Action would include land clearing, grading, gravelling, paving, fencing, making general site improvements, and extending access roads and utilities to serve the proposed ranges.

1.8 Unexploded Ordnance

The Proposed Action is located within the existing East Impact Area where weapons, bombs, explosive munitions, etc. have been and can be fired or detonated. Fort Jackson has had field artillery operations in this location since World War I. Due to the history of these activities, Unexploded Ordnance (UXO) are anticipated in the Proposed Action area. Prior to any ground-disturbance, former range footprints with the potential to contain UXO and coinciding with proposed construction areas would be investigated and remediated to an appropriate depth to ensure safety of construction personnel and future users. UXO clearance would take place in the maximum construction limits and in the event UXO is discovered on the site, UXO clearance would be conducted using ground penetrating radar and metal detecting to identify UXO. Any inert UXO would be removed and moved off-site and if, by chance, any live UXO was encountered it would be blown in place. In the event UXO is discovered during the actual construction, the Army's explosive ordnance disposal detachment has the responsibility to safely remove or blow in place the UXO.

SECTION 2: DESCRIPTON OF PROPOSED ACTION

2.1 Introduction

As described above, the project site is located within the MTC's licensed area of Fort Jackson. The proposed MPMG range will be located, within the impact area, on an existing active range complex that is managed by Fort Jackson (Figure 2). The existing Main Tank Range overlaps the northern edge of the MPMG footprint; based on this overlap, Main Tank Range will not be able to fire at the same time as MPMG.

The Impact Area is an existing area where weapons, bombs, explosive munition, etc. have been and can be fired or detonated. Fort Jackson has had field artillery operations since World War I. Figure 2 highlights all existing active Surface Danger Zones (SDZs) firing into the small arms impact area including the proposed MPMG range footprint. An SDZ is a buffer zone which accounts for projectiles, fragments, debris, and components resulting from the firing of weapon systems during the operations phase of a range. The map clearly shows that active ranges are all firing upon the proposed MPMG SDZ. The location of the active field artillery target box is also highlighted within the impact area. Artillery rounds are fired from designated firing points in the licensed area into the target box which is the only existing area where artillery rounds can make impact. An artillery round is a weapon system that requires a crew or more than one individual to function due to its high operational complexity and includes big guns, howitzers, or mortars having a caliber greater than that of small arms, or infantry weapons. The map shows that the artillery box is located within the middle of the MPMG SDZ which covers a vast amount of viewable area.

Fort Jackson occupies 51,313 acres in the Sandhill region of South Carolina. Typical land uses on Fort Jackson include military vehicle and Soldier maneuvers, bivouacking, helicopter landing zones, firing points, live-fire ranges and associated safety zones, impact areas, forestry, and other natural resources management, hunting and fishing, and cantonment.

2.2 Proposed Action

The proposed MPMG will be designed and constructed to comply with Army Training Circular (TC) 25-8 (Training Ranges). The ranges would be operated and the proposed SDZs for these ranges would be controlled by the SCARNG in accordance with Army Regulation (AR) 385-63 (Range Safety), DA Pamphlet (DA Pam) 385-63 (Range Safety), and National Guard Regulation (NGR) 385-63 (Army National Guard Range Safety Program, Policy, and Standards). These regulations require that all SDZs fall within lands controlled by the ARNG. In addition, the ranges would be constructed and operated in accordance with Fort Jackson Range Regulations 350-14 (Training), 350-1 (Training and Training Support), and 200-8 (Environmental Quality). The proposed MPMG is currently in the final design phase and the final details may change slightly, however it is not anticipated that the project would expand beyond the footprint described.

Based on the final design, the proposed footprint for the range is approximately 208 acres including the Range Operations Control Area (ROCA): however, not all 208 acres will be disturbed. The proposed SCARNG clearing plan indicates that the area of disturbance is approximately 34 acres. Within the 34 acres illustrated in Figure 4, construction will require grubbing, grading, and the

construction of targets and infrastructure.

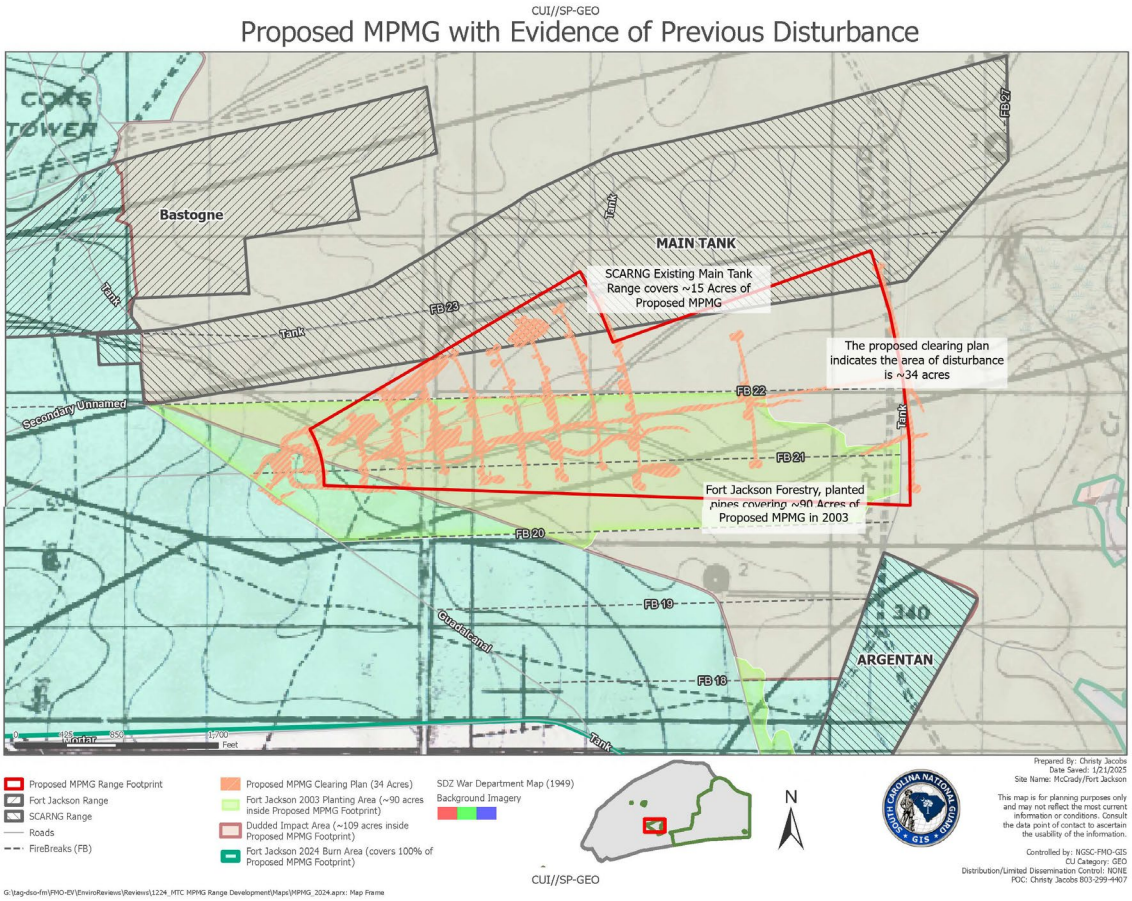

Figure 4: MPMG Range footprint with Clearing Plan and Evidence of Previous Disturbance

The proposed project will consist of a 6-lane MPMG range and the ROCA. Two lanes will be standard 800-meter lanes equipped with eight (8) Stationary Infantry Targets (SITs). Four lanes will be standard 1,500-meter target lanes and include SITs, and Stationary Armory Targets (SATs). The installation of the SATs utilizes a treated railroad tie retaining wall on three sides and a protective earthen berm. The SITs have concrete emplacement with a geotextile/gravel drainage layer, a treated railroad tie front wall protection, and a protective earthen berm. No moving infantry targets are proposed for the construction of the MPMG.

The range would be secured by two main access gates that would open to two separate driveways that would lead to a gravel or asphalt parking area, depending on funding. Range signs and flagpoles would also be installed along the gated entrance. Security light poles would be installed around the perimeter and within the range. Existing telephone, electric, and fiber optic lines would be extended from existing ranges to provide power to the new MPMG Range. The SCARNG proposes to construct several buildings within the approximately 4-

acre ROCA including a Covered Mess Hall, a Classroom, an Operations Storage Building, a Range Control Tower, and an Ammo Breakdown Building. An enclosed bleacher area would also be installed (Figure 5).

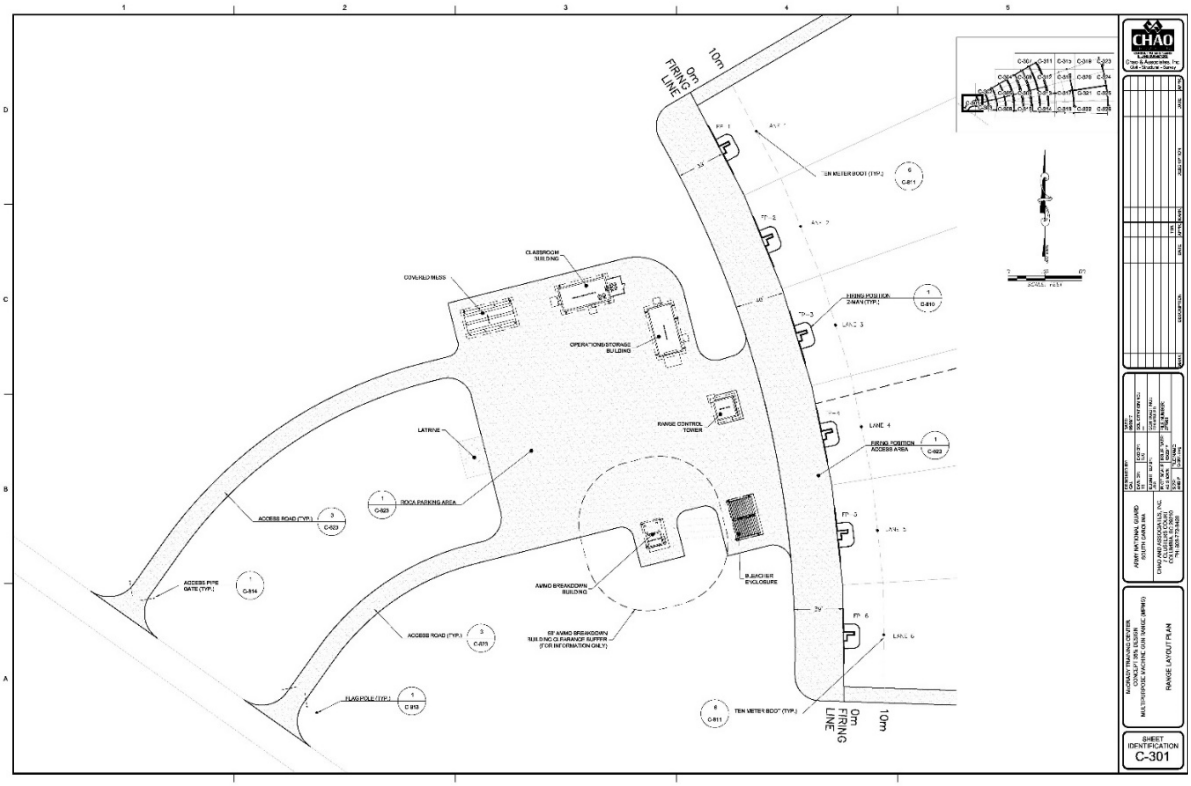

Figure 5: Engineer drawings of MPMG Range Operations and Control Area (ROCA)

The facilities will be designed to meet Industry Standards as well as all local, State, and Federal building codes and as per 40 USC §4154 Standards for design, construction, and alteration of buildings; Secretary of Defense. Construction will include all utility services, information systems, roads, walks storm drainage, and site improvements. All electrical will connect to the existing Fort Jackson Department of Public Works (DPW) primary line on Wildcat Road via the installation of a new overhead utility pole and will run onto the ROCA portion of the range for the support facilities and downrange to support the Automated Target Systems (ATS) installation. Electrical utilities would be installed along existing and proposed new access roads to minimize additional ground disturbance. The current design will have approximately 13 power poles and the right-of-way will be a length of 3,563 feet.

Storm drainage will predominately continue along its current drainage patterns. Existing drainage is from west to east across the entire range. To maintain existing flow patterns and prevent ponding throughout the site, several proposed culvert locations have been developed into the design plans. For future maintenance the minimum pipe size is required to be 24”. Some pipes are larger based upon their hydraulic capacity needs. The ROCA is proposed within a

topographic “saddle” so additional culverts will be provided to route stormwater around the ROCA. The soils in this region are very sandy so the drainage was designed to decrease runoff by promoting infiltration. To achieve this the main drainage channels have been designed with wide flat bottoms and flatter longitudinal slopes. The flows in the channels will be further slowed by rip rap check dams in the channels to keep velocities below erodible thresholds and increase infiltration

MPMG ranges are used for training and qualifying soldiers in the use of automatic weapons, primarily the M249, M240, and M2. They also support light and heavy machine gun training, as well as Mk-19 qualification. The MPMG range is designed to train and test soldiers on the skills necessary to zero, detect, identify, engage, and defeat stationary and moving infantry and armor targets in a tactical array. The range supports both light and heavy machine guns in both vehicle mounted and ground based configurations. No frangible ammunition is proposed. The tasks supported from Training Circular-25-8 include:

M249 SAW/M240B

- 10M Record Range Fire
- Transition Practice Fire
- Transition Record Fire
- NBC (Nuclear, Biological and Chemical) Conditions Fire

M60/M2

- Transition Record Fire
- Limited Visibility/Predetermined Fire

MG/MK-19

- Practice Fire
- Record Fire
- NBC Conditions Fire
- Night Firing
- MG Sustainment Fire
- Live Fire Exercise
- Combined Arms Live Fire Exercise

The MPMG Range would be available for all SCARNG units. The SCARNG has ten (10) major subordinate commands (MSCs) which includes over 50 units. Based on requirements, every MSC would utilize the proposed MPMG Range with units including, but not limited to: 218th Regiment, 2nd Engineer Battalion, 151st Signal Battalion, 118th Infantry Regiment, 1st Battalion 178th Field Artillery Regiment, and the 178th Engineer Battalion.

The Army Range Requirements Model (ARRM) application indicates that South Carolina Army National Guard (SCARNG) units have an annual requirement of 58 range days for the automated Multi-Purpose Machine Gun (MPMG). This requirement is based on the current SCARNG force structure and the Standards in Training and Readiness (STRAC). These 58 range days represent the minimum training needed to achieve annual proficiency. In addition to SCARNG requirements, SCARNG reviewed data from the Range Facility Management Support System (RFMSS) for two training years (TY23-TY24) regarding machine gun live-fire events scheduled at MTC by other military units. RFMSS data shows an average of 14 additional range days per year. Therefore, the projected range

usage for the MPMG at MTC totals 72 range days annually.

Table 1: MPMG Range Details

Range Area (acres)	SDZ Area (acres)	Maximum Construction Limit (acres)	Range Dimensions	Weapons Utilized	Targets	Range Operations Control Area (ROCA) Components	Access Road	Parking Area	Electricity/ Telecom
170 (166 range & 4 ROCA)	4,796	208	6 lanes Lanes 1 and 2 are 800 meters (0.497 mi) long Lanes 3-6 are 1,500 meters (0.932 mi) long Range width is 860 meters (0.534 mi).	M60 Machine Gun (MG) M240B MG M249 SAW MK19 40mm MG M24 Sniper Rifle No frangible bullets will be used	5 Stationary Armor Targets (SATs) at 400, 600, 800, 1,100, and 15,000 meters (0.25, 0.37, 0.5, 0.68, 9.32 mi) in Lanes 3-6. 20 Stationary Infantry Targets (SITs) will be arrayed at 100-meter intervals to 800 meters (0.062mi intervals to 0.497 mi) in Lanes 1-6.	Range Operations Center - control tower General Instruction building Operations/Storage Building Ammunition Breakdown Building Concrete Pads for contracted Portable Latrine facilities* Bleacher Enclosure Covered Mess Shelter Vehicle Parking Area	580 linear feet of 16-foot-wide access road (0.21 acre)	2,000 square yards (0.41acre)	Electrical will connect to the existing primary line on Wildcat Road. It is approximately 3,563 feet from the connection to the proposed MPMG.

* Port-o-lets used at the proposed project will be maintained under existing agreements for such work on Fort Jackson.

2.3 Alternatives Considered

DoD's NEPA Implementing Procedures require a range of reasonable alternatives to be rigorously explored and objectively evaluated. Alternatives that are eliminated from detailed analysis must be identified along with a brief discussion of the reasons for eliminating them. This section provides an analysis of the various alternatives evaluated during the development of the project. These alternatives included the No Action Alternative which is used as the baseline for comparison of the Build Alternatives.

2.3.1 Alternatives Development (Screening Criteria)

The SCARNG undertook a rigorous site identification and screening process to narrow the number of alternatives and locations considered for the Proposed Action. Paramount within this analysis was the need to: 1) meet Army Range Requirements Module (ARRM) requirements; 2) construct the proposed ranges on a training site of sufficient size to accommodate the proposed range and the associated SDZ; and 3) maximize the use of an existing duded impact area to accommodate the proposed range SDZ. The SCARNG developed screening (evaluation) criteria to guide site selection, and applied these criteria to the below alternatives. Overall, satisfaction of the SCARNG's screening criteria would provide facilities best suited to meet the purpose of and need for the Proposed Action, while minimizing costs and environmental effects. These screening criteria are outlined in Section 2.3.4 Alternatives Impacts Comparison Matrix Table 2.

SCARNG applied the screening criteria to the following alternatives:

- **No Action Alternative** - Do not implement the Proposed Action and continue operating under current conditions, including conducting mission-required weapons training and qualification at Ft. Eisenhower (formerly Ft. Gordon), Ft. Stewart, Georgia, or Ft. Liberty (formerly Ft. Bragg), North Carolina.
- **Alternative 1: Preferred Action Alternative** – Implement the Proposed Action as summarized above and described in Table 1 (Figure 2 and Figure 4).
- **Alternative 2**: **Alternate Location on McCrady Training Center (MTC)** – Construct and operate the proposed MPMG Range on the eastern side of MTC (existing SCARNG Controlled Property) (Figure 6).

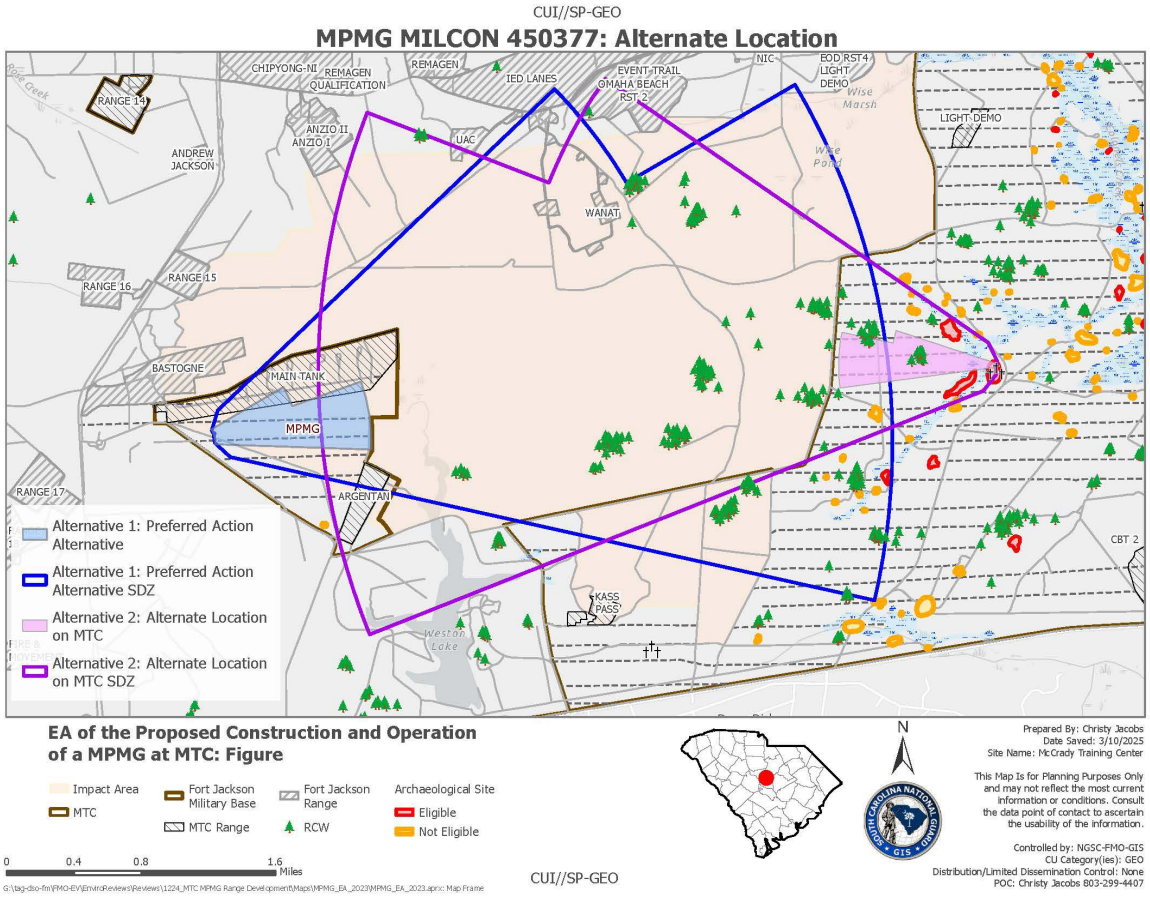

Figure 6: Alternative 2: Alternate (East) Location on MTC

- **Alternative 3: Other SCARNG-Controlled Property Alternative** – Construct and operate the proposed MPMG Range at another SCARNG-controlled property. The approximately 870-acre Clark's Hill Training Center (CHTS) is the only other relatively large, SCARNG-controlled training area in South Carolina (Figure 7).

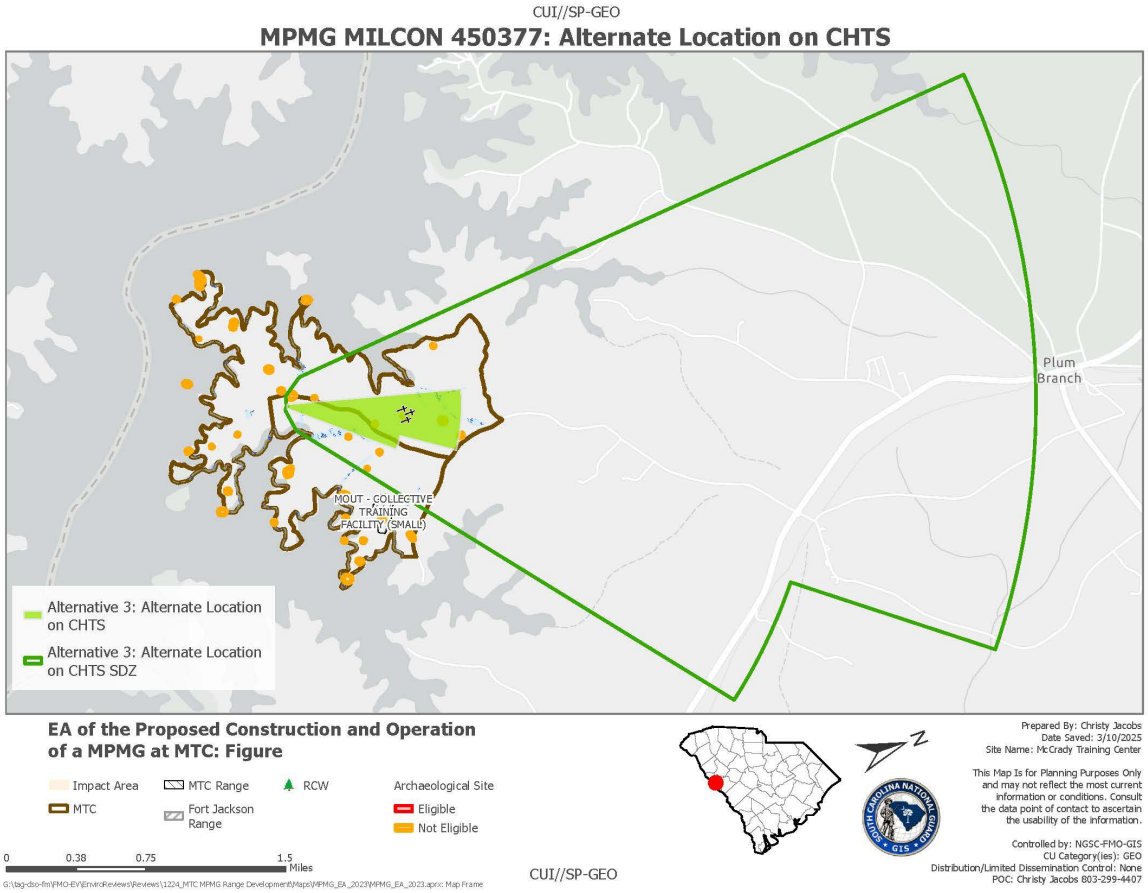

Figure 7: Alternative 3: Alternate Location on CHTS

2.3.2 Evaluated Alternatives

- **Preferred Action Alternative** – Based on the analysis, the Preferred Action Alternative is to implement the Proposed Action as described in Section 2.1. This alternative best meets the criteria described in Section 2.3.1 and summarized in Table 2 for implementing the Proposed Action.
- **No Action Alternative** - Under the alternative, the SCARNG would not construct the proposed MPMG range and would continue to operate under current conditions. The ten (10) MSCs of the SCARNG would continue to travel to Fort Eisenhower, Fort Liberty, or Fort Stewart to attain required weapons training and qualification requirements. This would result in a lack of mission readiness and would require additional training time and money to fulfill training requirements.

  While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the effects of the Preferred Action Alternative, as required under DoD's NEPA Implementing Procedures. The No Action Alternative reflects the status quo and serves as a benchmark against which the effects of the Proposed Action (i.e., the Preferred Action Alternative) can be evaluated.

2.3.3 Alternatives Eliminated from Further Consideration

Based on the analysis, the SCARNG eliminated Alternative 2 and Alternative 3 through the screening process. These alternatives did not meet the requirements of the screening criteria. If an alternative is unable to meet the criteria, then it is considered not practicable or feasible. The alternative that meets the screening criteria is identified as the Preferred Action Alternative. Table 2 provides a summary of the SCARNG's justification for eliminating each of these alternatives. As such, these alternatives were eliminated from further discussion in this EA.

2.3.4 Alternatives Impacts Comparison Matrix

Table 2: Evaluation of Alternatives

Evaluation Criteria		No Action Alternative	Alternative 1	Alternative 2	Alternative 3
Meets Overall Purpose & Need	Yes/No	No	Yes	Yes	Yes
Sufficient Land Area	Yes/No	No	Yes	Yes	No
Relationship to Existing Ranges			Yes	No	No
Minimize Conflicts with Other Existing Ranges and Training Areas	Yes/No	Yes	Yes	No	Yes
Use of Existing Impact Areas	Yes/No	N/A	Yes	No	No
Proximity to existing utility infrastructure	Yes/No	N/A	Yes	No	No
Accessibility	Yes/No	N/A	Yes	Yes	No
Minimize Impacts to Environmental Resources	Yes/No	Yes	Yes	Yes	No
Minimize New Ground Disturbance	Yes/No	Yes	Yes	Yes	No
Meet ARRM Requirements	Yes/No	No	Yes	Yes	Yes

The Preferred Action Alternative is the only option that meets all SCARNG's screening criteria, as well as achieves the purpose of and need for action.

This EA examines, in-depth, the following two alternatives: the Preferred Action Alternative and the No Action Alternative. Each of these two alternatives has been described above.

Based on evaluation of the alternatives SCARNG determined that Alternative 1 provides the purpose and need of the project with minimal impacts to the human and natural environments. This alternative is explained in detail in Section 5.

SECTION 3: AFFECTED ENVIRONMENT

3.1 Introduction

Section 3 describes the current (existing) environmental conditions of the area affected if the Preferred Action Alternative was implemented. These conditions represent the baseline conditions from which to identify and evaluate any direct, indirect, or cumulative physical, environmental, cultural, and socioeconomic changes likely to result for the implementation of the Preferred Action Alternative and the No Action Alternative.

For the purposes of this analysis, the existing environmental conditions discussed in this section include the construction footprint as well as the lands within the proposed SDZ. Due to the nature and scope of the Proposed Action, consequential effects beyond the SDZ are not anticipated.

In compliance with DoD's NEPA Implementing Procedures, the description of the affected environment focuses on those resources and conditions potentially subject to effects. Through this process, the SCARNG determined the technical resource areas which required in-depth evaluation in this EA would be Air Quality, Noise, Biological Resources, and HTMW. The detailed analysis of each resource area is discussed in Section 4.

Resource information for this EA was obtained through the review of existing environmental and other relevant documents and available Geographic Information System (GIS) data from the SCARNG (see Section 1.6); data from regulatory agencies, federally recognized Native American Tribes, other pertinent agencies and organizations, and communication with Subject Matter Experts (SMEs); and field observations.

In addition, the SCARNG conducted site-specific noise, air quality, biological resource, and HTMW studies in support of this NEPA analysis to determine the extent, condition, and relevance of these resources, as well as the Proposed Action's potential effects on these resources.

3.1.1 Location Description

The SCARNG is planning to construct a standard-design MPMG on MTC. The proposed MPMG Range (MILCON 450377) would be constructed within previously disturbed areas. The proposed MPMG range is located on an active military training base and there are currently three active shooting ranges, including the Argentan, Main Tank, and Wanat Ranges, all located within the SDZ and within 2600 yards of the proposed range footprint. The existing Main Tank Range overlaps the northern edge of the proposed MPMG footprint (Refer to Figure 2). Approximately 90 acres of the proposed range footprint is mixed pine-hardwood plantation managed by Fort Jackson's prescribed fire program and mowing practices. These areas are also cut by multiple firebreaks and roads and interspersed with several other existing ranges. Section 2.2 Figure 4 illustrates the proposed clearing plan, the 90 acres pine plantation has been planted and managed since 2003, the duded impact area with the 1949 SDZ War Department Map which shows the historical footprint of ranges and access roads in the Proposed Action area.

The proposed MPMG range will be located, within the impact area, on an existing active range complex that is managed by Fort Jackson. The existing Main Tank Range overlaps the northern edge of the proposed MPMG range footprint; based on this overlap, Main Tank Range will not be able to fire at the same time as the proposed MPMG. The impact area is an existing area where weapons, bombs, explosive munition, etc. have been and can be fired or detonated. Fort Jackson

has had field artillery operations since World War I. See Figure 2 which highlights all existing active SDZs firing into the small arms impact area including the proposed MPMG range footprint. The map clearly shows that active ranges are all firing upon the proposed MPMG SDZ. The location of the active field artillery target box is also highlighted within the impact area. Artillery rounds are fired from designated firing points in the licensed area into the target box which is the only existing area where artillery rounds can make impact. An artillery round is a weapon system that requires a crew or more than one individual to function due to its high operational complexity and includes big guns, howitzers, or mortars having a caliber greater than that of small arms, or infantry weapons. The map shows that the artillery box is located within the middle of the proposed MPMG SDZ which covers a vast amount of viewable area.

3.2 Land Use

The approximately 15,000-acre MTC comprises the eastern portion of the overall 53,000-acre Fort Jackson in Eastover, Richland County, South Carolina. This land is owned by the DA, but has been licensed to the SCARNG since approximately 1943. The entire property is zoned to allow military training and testing use (Richland County 2021).

The MTC is in the central midlands of South Carolina, 25 miles east of Columbia, the capital of South Carolina (Refer to Figure 1). Most of the unincorporated areas of Richland County adjacent to the MTC are comprised of low-density or rural residential, agricultural, or open space land uses. No large urban areas or large concentrations of population are located adjacent to the installation.

Local zoning designations of Richland County are depicted in Figure 11 (Richland County Planning Department 2009).

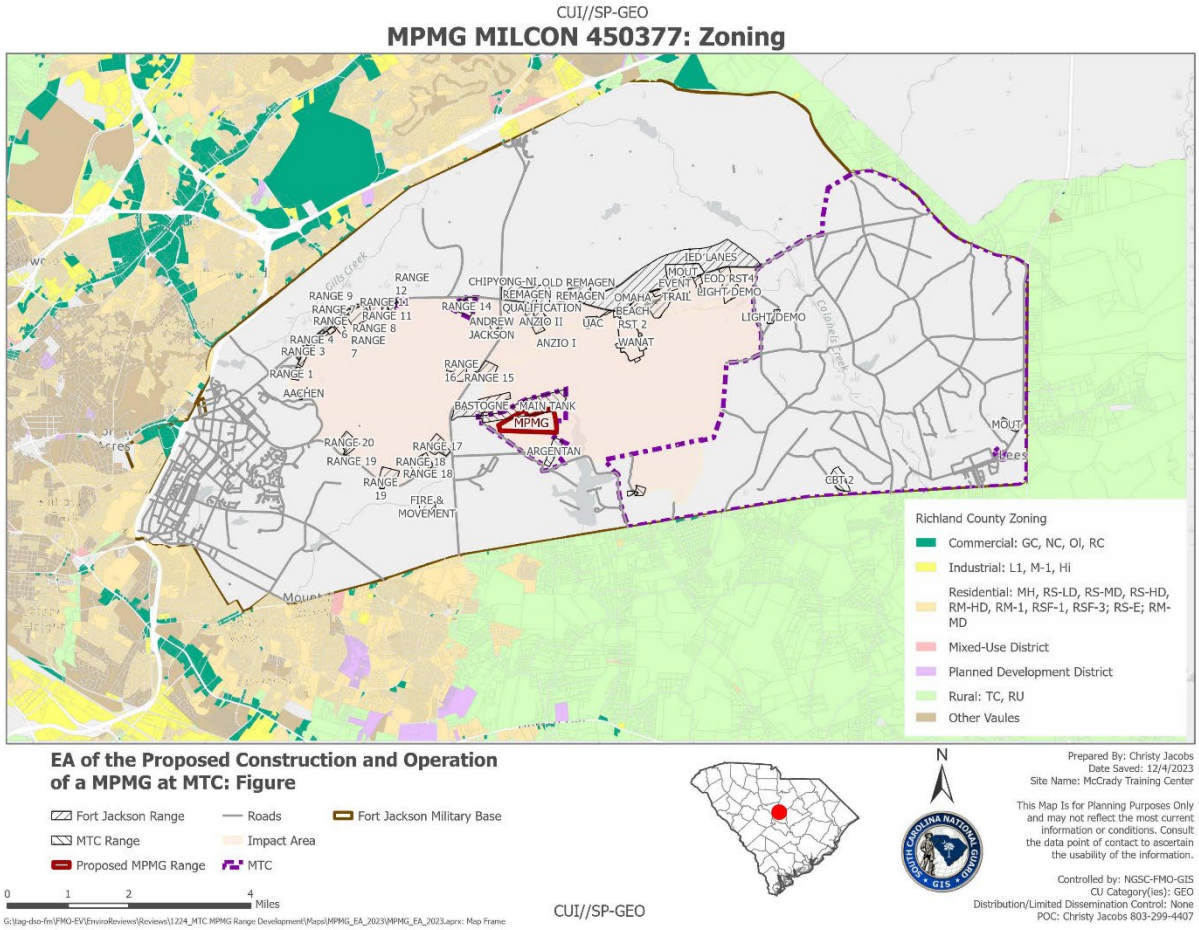

Figure 11: Richland County Zoning

MTC includes a 410-acre MTC cantonment area located in the southeastern portion of MTC and generally includes training support, recreational, and administration facilities. Within the remainder of the approximately 15,000-acre MTC, there are 54 maneuver training areas (11 light maneuver areas and 43 heavy maneuver areas), a Combat in Cities Facility, a Light Demolition Range, 18 artillery firing points, seven active live fire ranges, landing zones, tactical training bases, and other training facilities (see Figure 12). Lands in the northern portion of the MTC are generally used for light (infantry) training. Lands in the southern portion of the MTC are generally used for heavy (artillery) and live-fire range training.

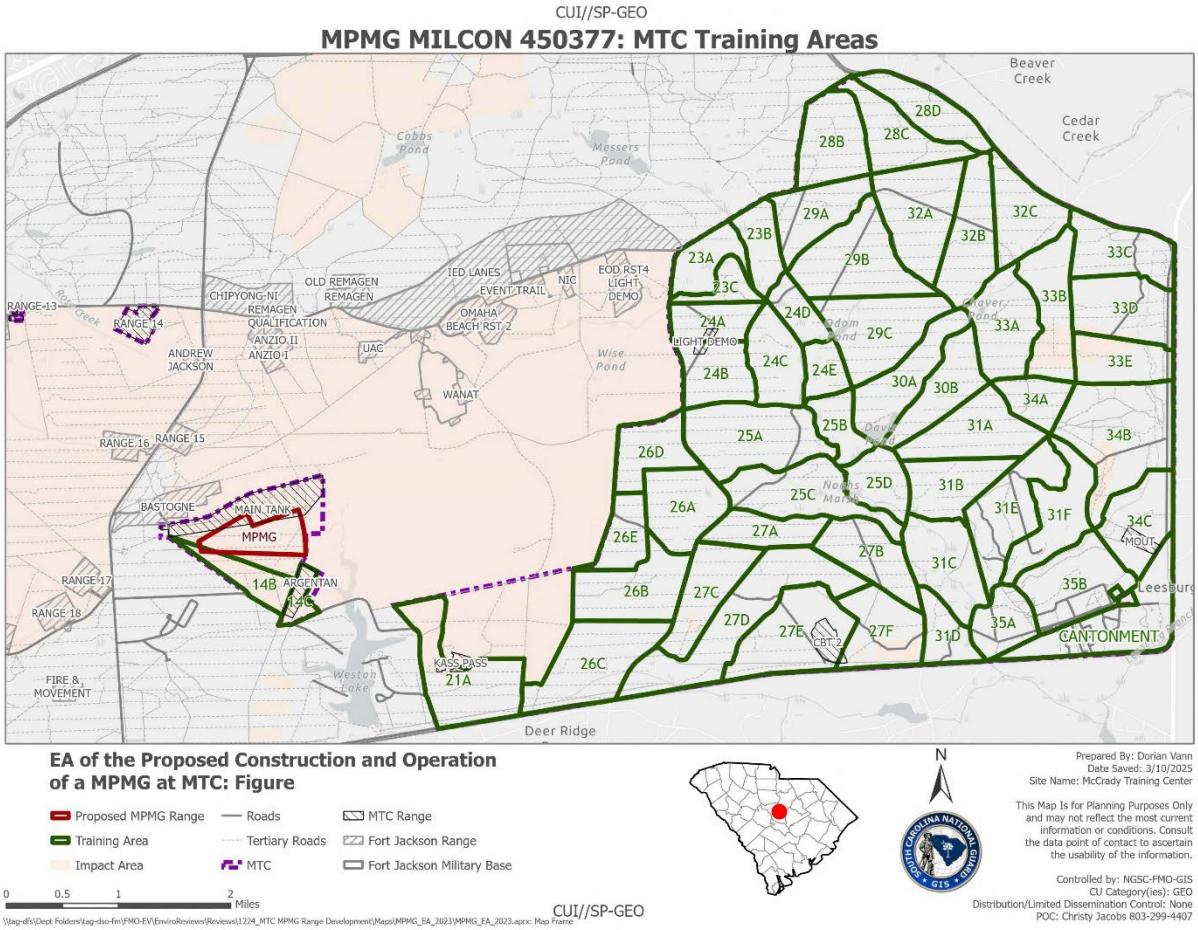

Figure 12: MTC Training Areas

The Proposed Action under the Preferred Action Alternative would be located within the southern portion of the MTC in existing areas used for live-fire training. The proposed use is consistent with, supports, and improves the current military land use within the boundaries of the MTC.

The proposed ranges have been carefully sited to avoid conflicts with other existing Fort Jackson and MTC training areas and ranges. As discussed in Section 3.2, the proposed construction would occur within previously disturbed areas, including former range areas. As shown in Figure 2, the proposed ranges would be sited so projectiles would land primarily within a designated, currently utilized impact area.

The proposed MPMG footprint is located within an existing duded impact area. According to the US Code (10 USC §101), the impact area is considered part of the operational range and a DoD military training asset. 10 USC §101 (f)1 confirms that the term "range" includes impact areas and (f) 3 states that “although not currently being used for range activities, that is still considered by the Secretary to be a range and has not been put to a new use that is incompatible with range activities." According to 10 USC 101 (f) the location within the duded impact area itself defines the Proposed Action area as a range.

In addition, the SCARNG would implement the land use BMPs identified in

Section 1.6.1 to ensure full compliance with AR 385-63 (Range Safety), DA Pam 385-63 (Range Safety), and NGR 385-63 (Army National Guard Range Safety Program, Policy, and Standards).

No off-Post land uses would be directly affected. As discussed in Section 4.4, the proposed range was evaluated to determine if an air quality permit would be required. Through the analysis, SCDHEC (now SCDES) determined the proposed MPMG range is exempt from the requirement to obtain an air quality permit or submit air dispersion modeling, for all possible purposes. Therefore, any off-post air quality effects are considered negligible. As discussed in Section 4.5, noise effects to the most proximate off-Post private properties and residences would also be considered negligible. As such, no direct or indirect adverse land use effects are anticipated under the Preferred Action Alternative.

Under the No Action Alternative, no effects to land use would occur as the Proposed Action would not be implemented. Ongoing activities at the MTC would continue as under current conditions. As such, land use is not further evaluated in this EA.

3.3 Air Quality

Based on the USEPA list of Nonattainment status for each county by year report, the Proposed Action Area been designated a full attainment area since 1992. The USEPA has determined that the air quality in this region is better than the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants, including carbon monoxide (CO), lead (Pb), nitrogen oxides (NOx), ozone (O3), particulate matter measuring less than 10 micrometers and less than 2.5 micrometers (PM10 and PM2.5), and sulfur dioxide (SO2).

The proposed range was evaluated to determine if an air quality permit would be required. Through the analysis, SCDHEC (now SCDES) determined the proposed MPMG range is exempt from the requirement to obtain an air quality permit or submit air dispersion modeling, for all possible purposes. Therefore, any off-post air quality effects are considered negligible. As such, no direct or indirect adverse air quality effects are anticipated under the Preferred Action Alternative. The air quality evaluation is discussed in more detail in Section 4.4.

Under the No Action Alternative, air emissions within the Proposed Action area would continue at current levels and any negligible emissions attributed to the Proposed Action would not occur. Ongoing out-of-state travel by SCARNG Soldiers to conduct appropriate training would continue, contributing to regional air emissions from mobile sources. As such, air quality is not further evaluated in this EA.

3.4 Noise

In accordance with AR 200-1, the army uses a system that partitions noise into three zones, each labeled by a Roman numeral and each representing an area of increasing noise. AR 200-1 lists housing, schools, and medical facilities as examples of noise-sensitive receptors. The noise exposure on a community is translated into Noise Zones, defined by the decibel level within those zones. The program defines four Noise Zones: Noise-sensitive land receptors not recommended in Zone III. Table 3 identifies each of these Noise Zones based on noise level.

Noise Zone	Small Arms (PK 15(met))
Zone I	<87
Zone II	87-104
Zone III	>104
PK15(met) = Single event peak levels exceeded by 15 percent of events	

Table 3: AR 200-1 Noise Zone Decibel Levels

The Range Managers Toolkit (RMTK) Noise Tool was used to evaluate potential noise situations that could impact both on-and/or off-post communities. Unlike topographic contours, noise contours are not intended to be a precise delineation of the Noise Zones. Factors such as meteorological conditions and the receiver's perception of the source can influence the level or impact of perceived noise. The noise zones are intended to provide the best available method to quantify noise impacts and assist in the decision-making process. The Noise Tool allows Range Managers to place noise contours in the context of other map layers to gain better situational awareness of their range complex and take action to mitigate complaints by performing analysis to determine the likelihood of receiving a noise complaint due to training or testing operations, based on weather conditions and the system being trained on or tested. Noise Contours: The extents of specified decibel levels for training events based upon weapon system, projectile, and environmental conditions such as wind speed/direction, cloud cover, temperature, etc. These noise contours can be used to predict when/where noise impacts are expected to be encountered.

As shown in Figure 13, existing on-Post ranges include a Combat Pistol Qualification Range, a 25-meter Zero Range, a 5.56mm Qualification Training Range, a Tank Range, and an AT-4 9mm Training Range. Figure 2 depicts the locations of existing Fort Jackson and MTC training ranges.

Current activities at on-Post small arms ranges utilize the following weapons: M4 carbine (5.56mm), M249 machine gun, M240 machine gun (7.62mm), M2 .50 caliber machine gun, M249 squad automatic weapon (SAW), 9mm pistol, .45 caliber pistol, and 12-gauge shotgun. Activities at these small arms ranges currently produce Zone II & Zone III noise contours. Large arms training activities include limited firing of the 155mm self-propelled howitzer (i.e., over a period of approximately 3 to 8 days per year). While an uncommon occurrence, this weapon system can produce peak blast noise heard up to 1 mile beyond the southern and eastern boundaries.

Existing helicopter traffic includes SCARNG helicopters crossing Fort Jackson airspace in route to McEntire Joint National Guard Station, located approximately 5 miles south of Fort Jackson. Additional helicopter traffic includes SCARNG AH-64 Apache, UH-60 Blackhawk, OH-58A Kiowa, and CH-47 Chinook helicopters from the Eastover Army Aviation Support Facility conducting low-level training exercises at Fort Jackson. Overall, about 3,500 helicopter flights occur over Fort Jackson annually. While in route to Fort Jackson, all helicopters comply with NGR 5-1 title and maintain minimum altitudes of 500 feet above ground level in unpopulated areas and 1,000 feet above ground level in populated areas. Typical helicopter training exercises at Fort Jackson occur three nights per week, with additional operations conducted two days per week and two weekends per month (USACHPPM 2009). Locations of Fort Jackson and MTC helicopter landing zones are identified in Figure 13.

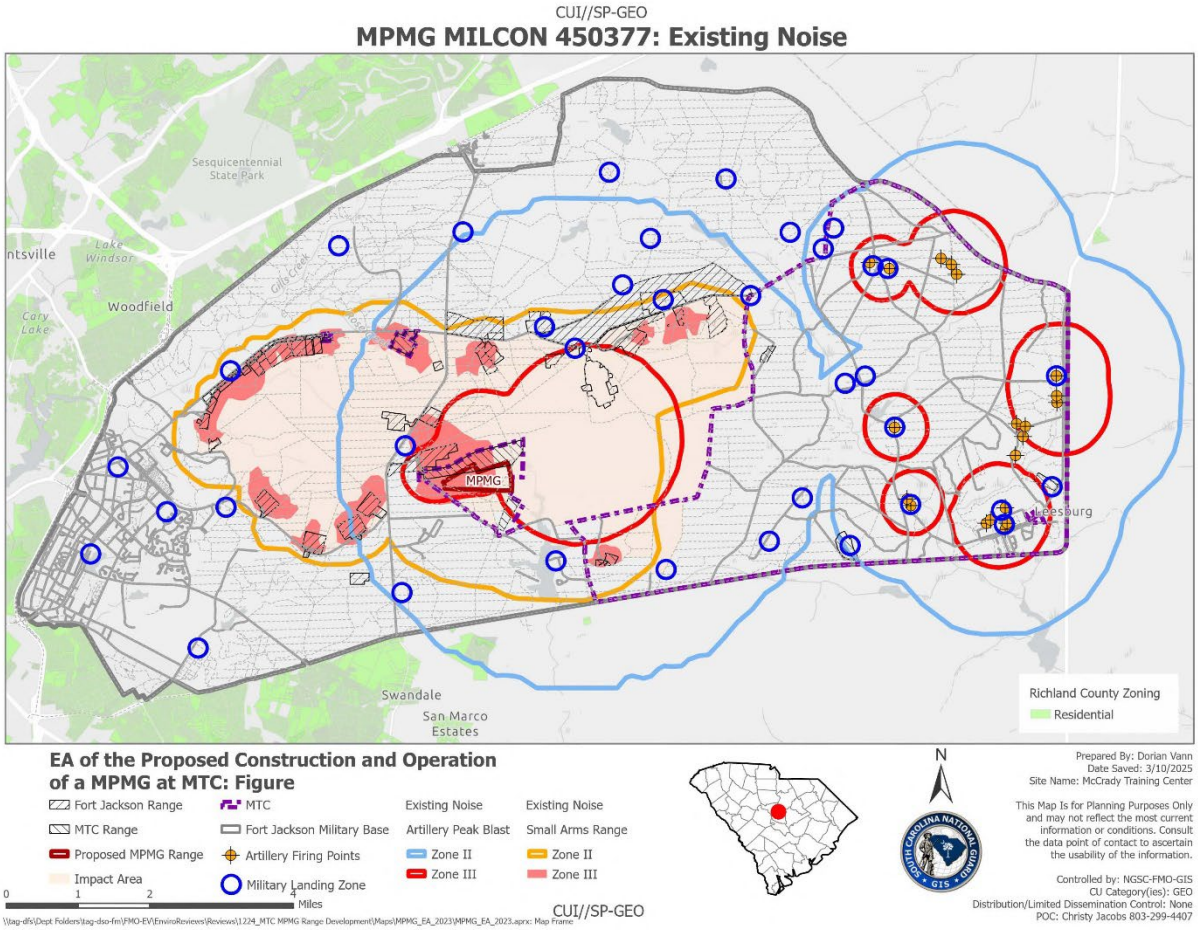

Figure 13: Existing Noise Sources

The noise analysis indicates the closest residential area is approximately 1.9 miles from the proposed MPMG firing points; the closest church is approximately 2 miles from the proposed MPMG firing points and the closest school, childcare center, hospital, and nursing home are all over 4.5 miles away. The on-Post Weston Lake Recreational Area is approximately 1.2 miles from the proposed MPMG firing points and located entirely within the existing Noise Zone II area, but lies completely within the boundaries of the Fort Jackson installation and is controlled by Fort Jackson.

3.5 Geology, Topography & Soils

Geology. The Proposed Action falls within the Sandhills physiographic province of South Carolina. This region, characterized by sand dunes associated with and deposited by an ancient ocean, is underlain by layers of sand and marine deposits. Figure 14 depicts the geology of Richland County, South Carolina, and the extent of these Atlantic Coastal Plain deposits. Over time, these deposits were compressed and hardened to form the current sandstone geology of the area (i.e., the Huber/Usbon/Barnwell Formations).

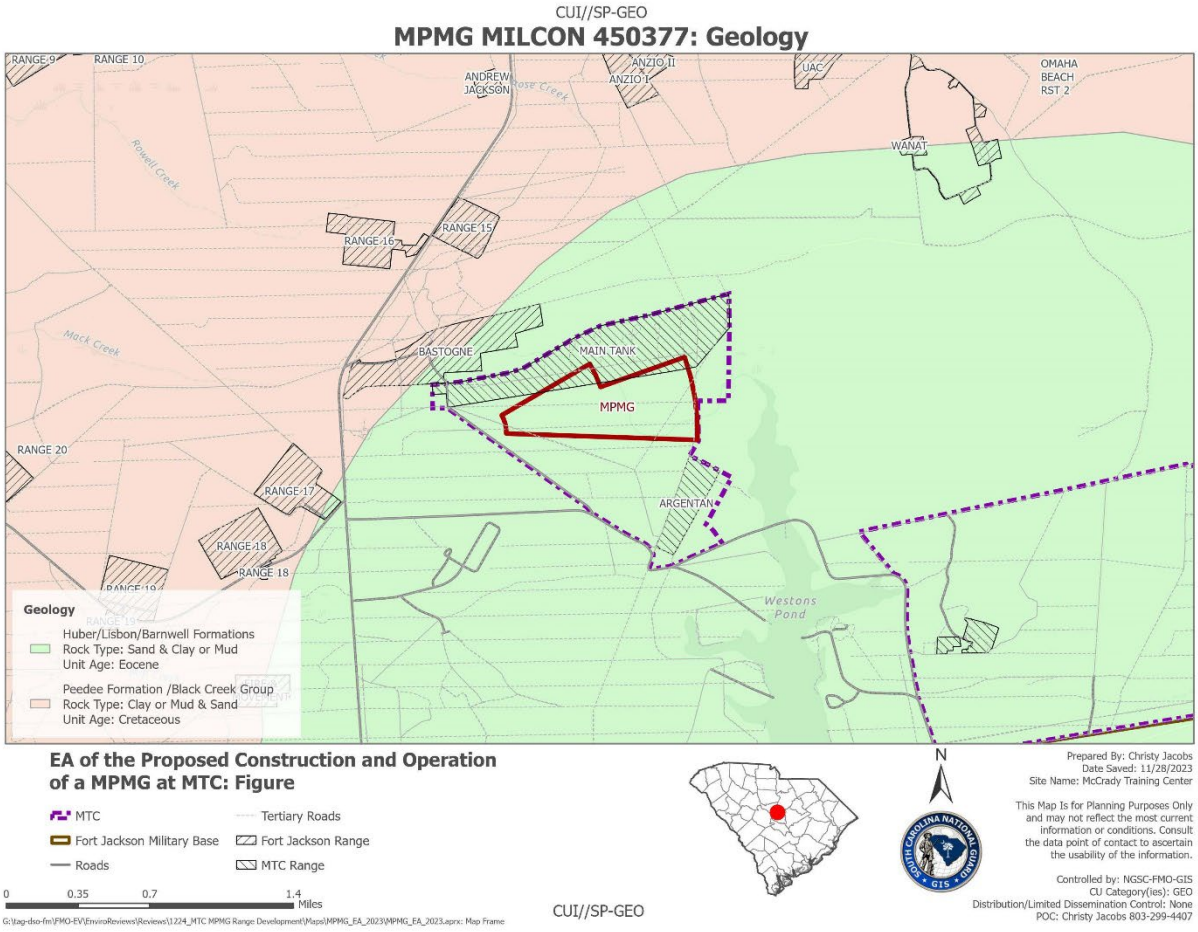

Figure 14: Proposed MPMG Geology

Topography. The MTC, in the eastern portion of Fort Jackson, is characterized by flat to gently sloping, swampy alluvial plains. Relief is typically less than 20 feet and slopes are usually less than 3 percent, although wide variations exist. A gently rolling upland surface in the extreme southeastern portion of the MTC, adjacent to Colonels Creek, is characterized by local relief of 100 feet and slopes ranging between 3 and 8 percent. Within the installation, elevations typically range between 180 and 280 feet above mean sea level (amsl). The lowest elevation, less than 160 feet amsl, occurs on the MTC in the floodplain of Colonels Creek.

The specific landscape within the proposed MPMG Range footprint ranges in elevation from 408 feet amsl at the westernmost extent to 285 feet amsl at the easternmost extent (Figure 15). The elevation difference gives the proposed MPMG Range an overall relief of approximately 120 feet. Much of this area drains towards Weston Lake which is approximately 1.2 miles to the east of the proposed MPMG footprint.

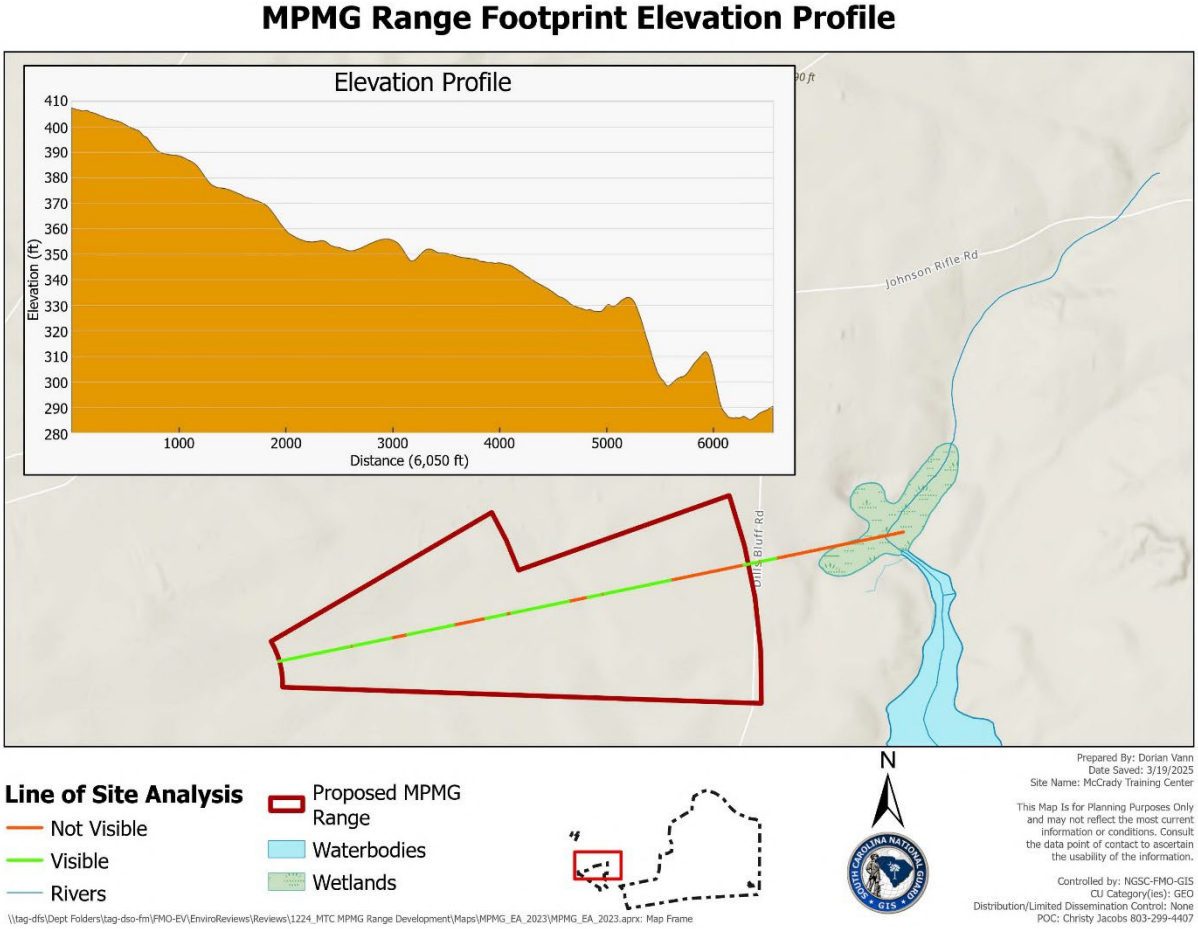

Figure 15: Elevation Profile

Soils. According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx) and the SCARNG's Geographic Information System (GIS)-based soils data (Figure 16), predominant soil types for the Proposed Action include:

- Ailey loamy sand, 2-10 percent slope (AeC) - These soils are deep, well drained, have a moderately low to moderately high capacity to transmit water, and are derived from sandy and loamy marine deposits. The depth to water table is more than 80 inches bgs. These soils have a low available water capacity and are neither hydric nor Prime Farmland soils. Ailey loamy sand has a K factori of 0.10, indicating low erodibility.
- Blanton sand, 0-6 percent slope (BaB) - These soils are deep, moderately well drained, have a moderately high to high capacity to transmit water, and are derived from sandy loamy marine deposits. The depth to water table is approximately 48 inches bgs. These soils have a low available water capacity and are neither hydric nor Prime Farmland soils. Blanton sand has a K factor of 0.02, indicating low erodibility.
- Lakeland sand, 2-6 percent slope (LaB) and Lakeland sand, 10-15

percent slope (LaD) - Soils in the Lakeland series are deep, excessively drained soils with a high to very high capacity to transmit water, and are formed from sandy marine deposits. The depth to water table is typically more than 80 inches bgs. These soils have a low available water capacity and are neither hydric nor Prime Farmland soils. Lakeland sand has a K factor of 0.05, indicating low erodibility.

- Troup sand, 0-6 percent slope (TrB) - These soils are deep, somewhat excessively well drained, have a moderately high to high capacity to transmit water, and are derived from sandy and loamy marine deposits. The depth to water table is more than 80 inches bgs. These soils have a low available water capacity and are neither hydric nor Prime Farmland soils. Troup sand has a K factor of 0.02, indicating low erodibility.

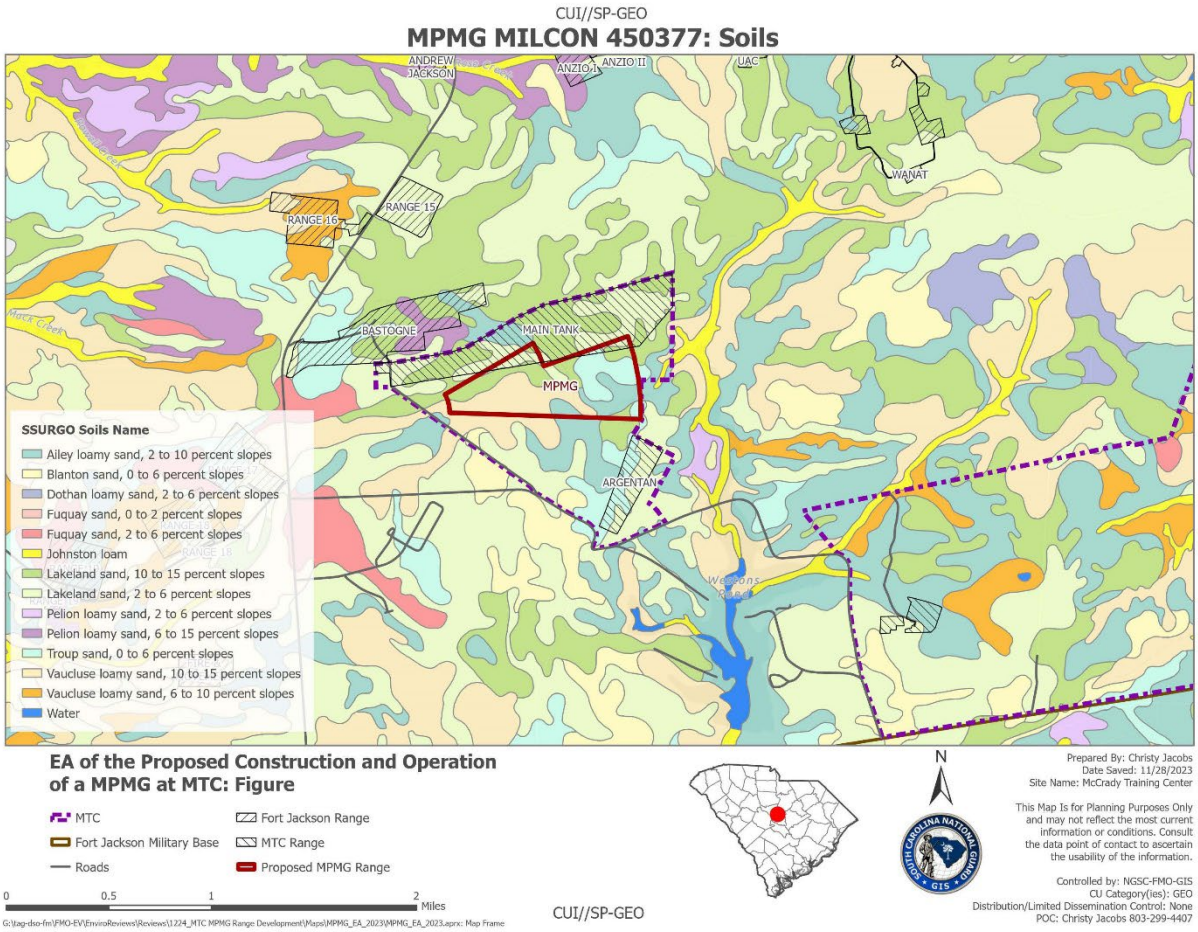

Figure 16: Proposed MPMG Soils

3.6 Water Resources

Water resources include surface waters and groundwater, as well as watershed areas affected by runoff from the installation, including floodplains. Wetlands are special communities that often occur at the interface between upland communities and freshwater communities and are also discussed in this

subsection.

There are four surface water drainage systems on Fort Jackson and the MTC. All the streams that occur on the eastern half of Fort Jackson flow into Colonels Creek within the MTC. Colonels Creek is a major tributary of the Wateree River. There are several ponds and impoundments on Fort Jackson and the MTC. Davis Pond, Odom Pond, and Chavers Pond are the three largest surface water bodies within the MTC. Odom Pond is adequate for fisheries management, while the remaining ponds are maintained primarily for waterfowl, recreation, and aesthetics. None of these ponds are within the proposed MPMG footprint.

Fort Jackson operates under general NPDES permits, as well as point-source NPDES permits that protect local surface water quality.

The MTC is not located within a designated Coastal Zone, and is therefore not managed under the Coastal Zone Management Program as outlined by the Coastal Zone Management Act of 1972 (National Oceanic and Atmospheric Administration [NOAA] Office of Coastal Zone Management 1979).

Groundwater within the Proposed Action area occurs generally at depths of 90 to over 200 feet below ground surface, but may be shallower. The Tuscaloosa Formation of Upper Cretaceous age underlies the Proposed Action area and is the primary source of groundwater in the area (US Army Training Center 2008). The formation consists of interbedded, generally unconsolidated, fine to coarse sand and clay, causing groundwater to occur under both unconfined and confined (i.e., artesian) conditions. At depths of 90 to over 200 feet below ground surface, the permeable sand zones are frequently overlain by less permeable clay zones, and groundwater exists under artesian conditions (US Army Training Center 2008). Groundwater is plentiful in the Proposed Action area. Fort Jackson, including the MTC, is not located within a recharge area for a sole-source aquifer.

Federal activities in floodplain areas are limited in accordance with EO 11988, Floodplain Management, and EO 11990, Protection of Wetlands, in order to avoid adverse effects associated with the destruction or modification of floodplains and wetlands. EO 11988 requires that Federal agencies determine whether a Proposed Action would occur in a floodplain. The EO also requires that, if an agency proposes an action in a floodplain, the agency consider alternatives to avoid adverse effects and incompatible development in floodplains. The Federal Emergency Management Agency (FEMA) prepares and updates Flood Insurance Rate Maps (FIRM) for most of the US. These maps delineate the 100-year floodplain, or areas that will flood approximately once every 100 years.

According to FEMA floodplain data depicted in Figure 17, no floodplains are present within the proposed MPMG footprint and approximately 72 acres of 100-year floodplains are present within the proposed MPMG Range SDZ. These floodplains are associated with the watershed feeding into Weston Lake in the southern portion of the proposed MPMG SDZ.

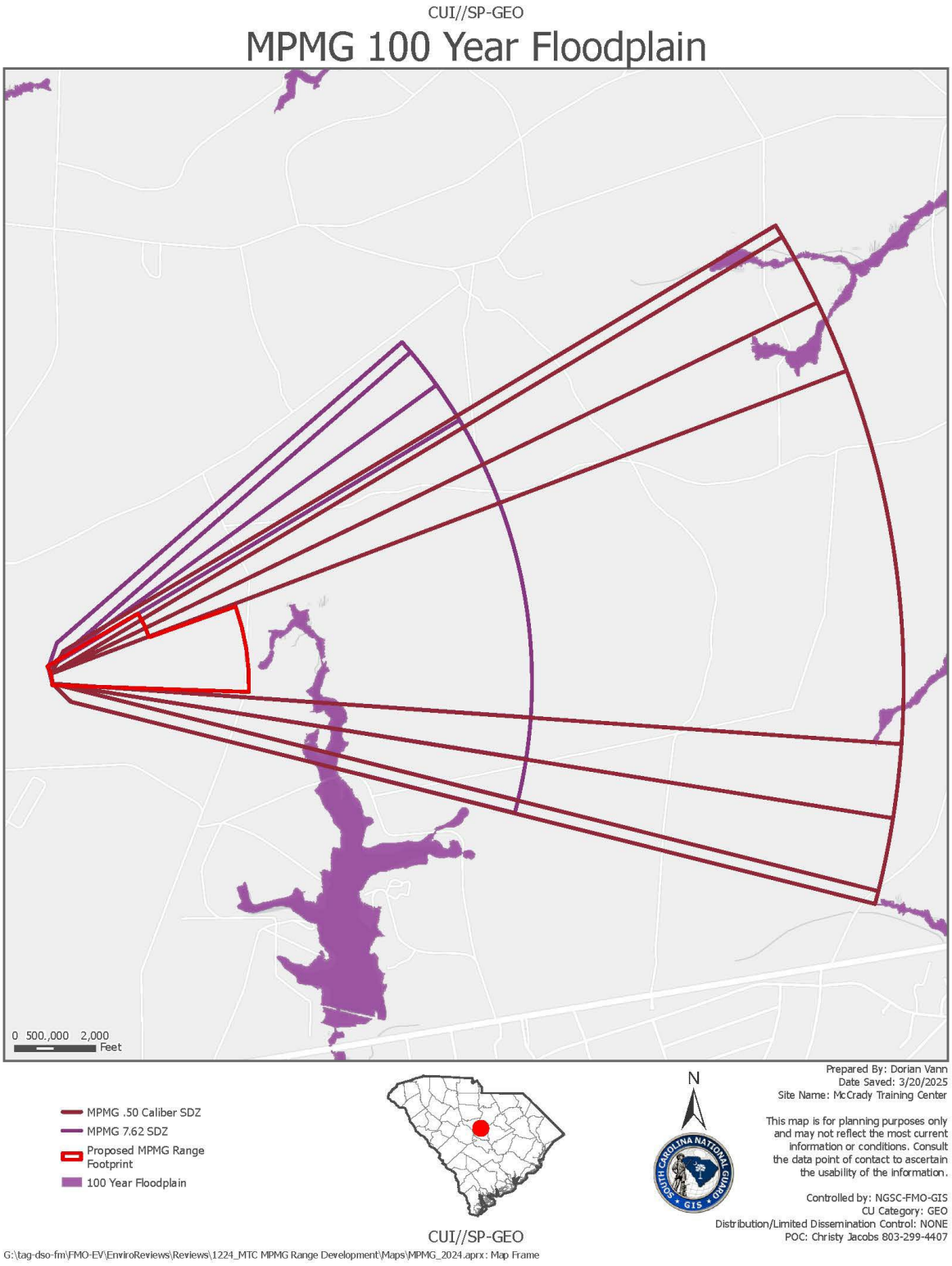

Figure 17: Proposed MPMG FEMA Floodplain

Wetlands are those areas that are inundated or saturated by surface or

groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (40 CFR Part 230.3(t)). Wetlands are subject to regulatory authority under Section 404 of the CWA, EO 11990, and EO 11988. EO 11990, Protection of Wetlands, requires that Federal agencies determine whether a Proposed Action would occur in or affect a wetland.

According to the USFWS National Wetland Inventory (NWI), there are approximately 1,283 acres of wetlands on the MTC. These wetlands typically are bottomland hardwood forests adjacent to streams and drainage areas. No wetlands are in the proposed MPMG footprint. There are approximately 88 acres of wetlands present in the proposed MPMG SDZ. During construction, compliance with NPDES construction permit, including implementation of a project-specific SWPPP would ensure sedimentation effects are minimized.

3.7 Biological Resources

Biological resources include native or naturalized plants and wildlife and the habitats in which they occur. Special status biological resources are defined as plant and wildlife species that are Federally listed under the Endangered Species Act (ESA) and State-listed rare species protected under S.C. Code of Laws Title 50 Chapter 15 which prevents a loss or take of State-listed rare species. The South Carolina Department of Natural Resources (SCDNR) manages the State-listed species and implements state regulations. Migratory birds, as listed in 50 CFR Part 10.13, are ecologically and economically important to recreational activities, including bird watching, studying, feeding, and hunting, that are practiced by many Americans. In 2001, EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, was issued to focus attention of Federal agencies on the environmental effects to migratory bird species and, where feasible, implement policies and programs that support the conservation and protection of migratory birds.

Vegetation communities at the MTC range from hardwood communities to xeric longleaf pine communities. Natural longleaf pine (Pinus palustris) is the predominant species and forms pure stands on sandy ridges and upper slopes. It is often mixed with short leaf (Pinus echinata), pond (Pinus serotina), and Virginia (Pinus virginiana) pines. Pine plantations at the MTC include two introduced species: loblolly (Pinus taeda) and slash pine (Pinus elliottii).

Oak species include blackjack oak (Quercus marilandica), bluejack oak (Quercus cinerea), dwarf post oak (Quercus stellata), scarlet oak (Quercus coccinea), scrub or turkey oak (Quercus laevis), southern red oak (Quercus falcata), water oak (Quercus nigra), willow oak (Quercus phellos), and white oak (Quercus alba). Black gum (Nyssa sylvatica), red maple (Acer rubrum), sycamore (Platanus occidentalis), yellow poplar (Liriodendron tulipifera) persimmon (Diospyros virginiana), pignut hickory (Carya glabra), and mockernut hickory (Carya tomentosa) occur intermixed with the oak species.

An understory of fetterbush, holly, sweet pepper bush, sheepkill, highbush, myrtle, muscadine, wild grape, and greenbrier grow in the wetland areas around springs and drainages. Other local native species include yaupon holly (Ilex vomitora), dogwood (Cornus florida), wax myrtle (Myrica cerifa), and others such as sparkleberry (Vaccinium arboreum), wild rosemary (Ceratiola ericoides), and sand myrtle (Leiophyllum buxifolium). There are no natural grasslands at the MTC. However, switch grass (Panicum virgatum) is often used as a wildlife food and erosion control plant (SCARNG INRMP 2023). Large, open sandy areas exist as well.

Vegetation at the MTC has been severely impacted by modern agriculture and development. At one time, the area was an oak-hickory climax forest, including stands of white oak and post oak. However, in the 19th and 20th centuries, clearing of these forests for cotton production occurred. After the collapse of the cotton market, the lands were abandoned and left to regenerate in loblolly or short leaf pine forest.

The MTC's forested areas are managed by the DA with privately contracted timber harvesting and planting. There are more than 14,300 acres of managed forest lands on the MTC, or almost the entirety of the property. Silvicultural management practices include timber, reforestation, and timber stand improvements. Management also includes the maintaining of firebreaks, which are also used as transportation arteries for training and maintenance activities. Firebreaks occur every 0.10 mile and are oriented due east to west within the MTC.

Timber harvesting, reforestation, prescribed burning, and related activities are directed primarily toward the production of longleaf pine timber (SCARNG INRMP 2023). The management of pine stands is directly tied to the management of wildlife species, principally the Federal-listed RCW (Picoides borealis). Forest management in RCW habitat is accomplished under the current ESMP's management guidelines for the RCW and AR 200-1 (USFWS RCW Recovery Plan 2003; SCARNG INRMP 2023; DA AR 200-1 2007).

The proposed SCARNG MPMG Range footprint is 208 acres, not all 208 acres will be disturbed. The proposed SCARNG clearing plan indicates that the area of disturbance is approximately 34 acres. Within the 34 acres illustrated in Section 2.2 Figure 4, construction will require grubbing, grading, and the construction of targets and infrastructure. Approximately 204 of the 208 acres of the footprint are within an existing duded range impact area (East Impact Area, EIA). The remaining 4 acres are a portion of the 90 acres of longleaf pine planted and managed since 2003. The maximum construction limit for the range is currently composed of the following habitat types: 101.49 acres of Longleaf pine plantation, 72.88 acres of Scrub Oak (currently impacted by other ranges), 18.12 acres of Longleaf pine forest, 6.46 acres of Mixed Pine/Hardwood, 5.01 acres of open roads, and firebreaks, 4.04 acres of Hickory-Longleaf Forest.

Biological resources were analyzed in detail in the 2023 SCARNG INRMP and in the 2023 BA and corresponding USFWS CO. For more details, the reader is referred to those documents

Common terrestrial and aquatic wildlife species at the MTC include mammals, fishes, amphibians, reptiles, birds, and invertebrates typically found in association with the Sandhills physiographic region of the southeastern US.

Mammals found at the MTC include: white-tailed deer (Odocoileus virginianus), eastern cottontail (Sylvilagus floridanusi), fox squirrel (Sciurus nigeri), eastern gray squirrel (Sciurus carolinensisi), muskrat (Ondatra zibethica), red fox (Vulpes vulpes fulva), gray fox (Urocyon cinereoargenteus), bobcat (Lynx rufus), river otter (Lutra canadensis), mink (Mustela vison), skunk (Mephitis mephitis), raccoon (Procyon lotor), tricolored bat (Perimvotis subflavus), and opossum (Didelphis marsupialis). (SCARNG 2010).

Amphibians include the eastern spadefoot (Scaphiopus holbrookii), bullfrog (Rana catesbeiana), and southern leopard frog (Rana utricularia). Reptiles include the snapping turtle (Chelydra serpentina), painted turtle (Chrysemys picta), southern copperhead (Agkistrodon contortrix), eastern cottonmouth (Agkistrodon piscivorusi), and timber rattlesnake (Crotalus horridus). (SCARNG 2010).

Songbirds, many of which are neotropical migrants, include the red-eyed vireo (Vireo olivaceus), cardinal (Cardinalis cardinalis), tufted titmouse (Parus bicolor), ruby-throated hummingbird (Archilochus colubris), rufous-sided towhee (Pipilo erythrophthalmus), wood thrush (Hylocichla mustelina), summer tanager (Piranga rubra), blue-gray gnatcatcher (Polioptila caerulea), hooded warbler (Wilsonia citrina), Canada goose (Branta canadensis), and Carolina wren (Thryothorus ludovicianus). Game birds include wild turkey (Meleagris gallopavo), bobwhite quail (Colinus virginianus), and mourning dove (Zenaida macroura) (SCARNG 2010).

Migratory bird species, defined as any birds that live, reproduce, or migrate within or across international borders during their annual life cycles, are protected under the Migratory Bird Treaty Act (MBTA). As such, migratory birds are present at various periods throughout the year. The MBTA prohibits the taking (i.e., hunting, wounding, killing, possessing, or transporting) of any migratory bird, their eggs, feathers, or nests. Approximately 122 bird species are currently protected by this law(https://www.federalregister.gov/documents/2020/04/16/2020-06782/list-of-bird-species-to-which-the-migratory-bird-treaty-act-does-not-apply).

The SCARNG implements various techniques and practices to manage suitable habitat for migratory birds and other native wildlife species in accordance with the SCARNG INRMP 2023. The 2023 SCARNG INRMP outlines annual monitoring efforts for migratory birds; to date, no negative impacts to the migratory bird population have been observed.

Wildlife habitat management at the MTC includes:

- Manipulating natural resources in a manner designed to conserve and restore habitat favorable to the production of indigenous (native) species;
- Managing habitat by use of prescribed burning, firebreaks, and wildfire control;
- Establishing and maintaining water facilities that function as recreational fisheries;
- Establishing and maintaining lakes, ponds, and sedimentation basins;
- Rehabilitating and managing training lands;
- Providing artificial nest structures;
- Establishing and maintaining conservation food plots;
- Promoting the growth of native vegetative species and grasses;
- Monitoring wildlife and migratory bird populations for overall health, abundance, and diseases (SCARNG INRMP 2023); and
- Monitoring wildlife populations for overall health, abundance, and diseases (SCARNG INRMP 2023).

Management of hunting and fishing for game species at the MTC falls under the guidance of Fort Jackson Regulation 28-4, Hunting and Fishing Regulation. All State of South Carolina hunting and freshwater fishing rules and regulations also apply to the MTC. White-tail deer, wild turkey, bobwhite quail, and dove are the most frequently hunted species (US Army Training Center 2018).

Special status species are defined as those plant and animal species listed as threatened, endangered, candidate, or species of concern by the USFWS, as well as those species with special status designations by the State of South Carolina. The Endangered Species Act (ESA) protects Federal-listed threatened and endangered plant and animal species, as well as their critical habitat. Candidate species are species that the USFWS is considering for listing as threatened or endangered, but for which a proposed rule has not yet been developed. Candidates do not have legal protection under the ESA. In some instances, candidate species may be emergency listed if the USFWS determines that the species' population is at risk due to a potential or imminent impact. The USFWS encourages Federal agencies to consider candidate species in their planning processes because these species may be listed in the future and, more importantly, because current actions may prevent future listing. Species of concern are species for which data were inconclusive to support ESA protection at the time of the proposed listing. A species of concern is an informal designation, although the USFWS recommends tracking of population trends and threats. The SC DNR also maintains a list of species of special concern.

The SC Army National Guard Environmental Resource Center's Conservation Office reviewed the list of all federally listed threatened/endangered (T&E) animal and plant species known to have occurred in Richland County, South Carolina (Appendix B). Referencing the USFWS online tool 'Information for Planning and Consultation' (iPAC) and the USFWS lists we determined the following T&E faunal species are found in Richland County: Shortnose Sturgeon as endangered, Red-cockaded Woodpecker as endangered, the American Wood Stork as threatened, and the Bald Eagle as protected under the Bald Eagle Protection Act (1940) and Golden Eagle Protection Act (1962). There are no known Bald Eagle nests within the proposed MPMG footprint or SDZ. The T&E floral species listed in Richland County include: the Smooth Coneflower as threatened, Rough-leaved loosestrife as endangered and Canby's Dropwort as endangered. The Tricolored bat has been proposed as endangered by USFWS at this time and is expected to be listed in the future. Based on the known and proposed special status species, a Biological Assessment was prepared, including a site-specific literature review and field survey to determine the presence of, and potential effects to, the special status species discussed above.

Fort Jackson actively manages an increasing population of RCWs as described in the Integrated Natural Resources Management Plan (U.S. Army 2017) as well as an Endangered Species Management Component (ESMC) which details monitoring and management actions for the RCW. The RCW Recovery Plan: Second Revision (USFWS 2003) is followed as well as current research and best management practices for this endangered species. On Fort Jackson, the RCW Habitat Management Unit (HMU), an area to be managed for current and future use by RCWs, is divided into two Habitat Management Areas (HMAs). The first is the Limited Management Area (LMA) where specific RCW management practices cannot be used due to the presence of unexploded ordnance. The second is the Standard Density Management Area (SDMA) where standard management of the RCW and its habitat is possible. The LMA consists of approximately 4,485 acres and includes the entire EIA. Refer to the BA in Appendix B for more details.

The 2013 BO Issued to US Army Ft. Jackson for the implementation of the ESMC, FWS Log No. 2013-F-0207, provides for incidental take for all groups of RCW's located in the EIA. This area is defined as a LMA which cannot be surveyed by ground due to unexploded ordnance on site. This take is granted based on munitions being fired into this area by existing live fire ranges, wildfires, and the limited ability to manage these groups. Any new ranges must be

separately consulted on using the most updated data which includes a new RCW cluster that did not exist in 2013. Therefore, in support of the proposed construction of the proposed MPMG Range a BA was prepared in 2023.

Of the 94.8 acres of potentially suitable LMA to be removed, only 17.35 acres are within the half-mile radius partition of a known RCW cluster (IMP-I). Cluster IMP-I lies in the EIA and is not accessible for surveying or performing a ground-based forest inventory. Based on a line-of-sight analysis, nesting habitat will not be affected by this project, the RCW trees for Cluster IMP-I are outside the area of affect and will not be visible from the firing points according to the modeling (Figure 18).

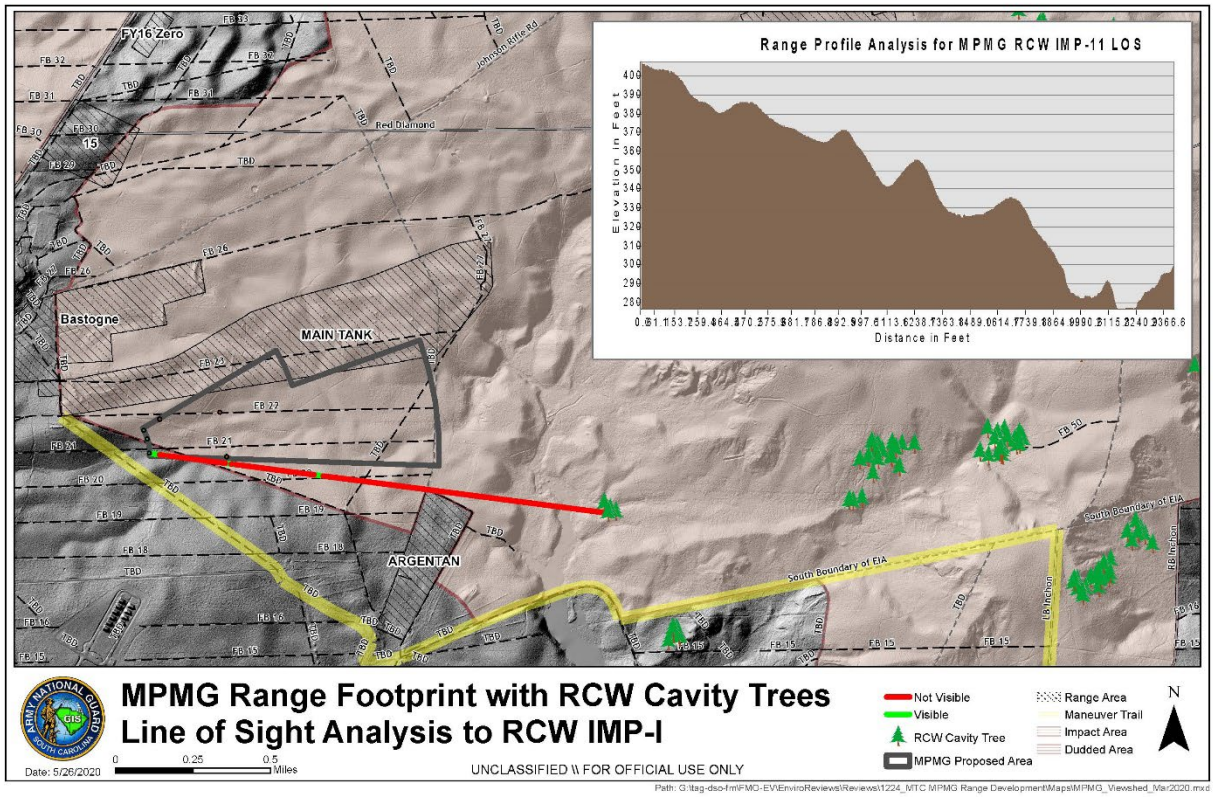

Figure 18: Line-of-Sight modeling to RCW Cluster Imp-I

The TCB has been proposed for listing as endangered in the Federal Register (FR Doc. 2022–18852 Filed 9–13–22). For interim guidance we have referred to the 'Range-wide Indiana Bat & Northern Long-eared Bat Summer Survey Guidelines' (USFWS 2023). We reached step 3b on page 4 which suggests that no further surveys are recommended and that we should coordinate with the USFWS Charleston Field Office to discuss potential effects, develop conservation measures, and determine the need for incidental take authorization.

This species has been detected and observed on MTC's licensed area while performing acoustic surveys in 2012-2016, as well as combined capture and acoustic surveys conducted by South Carolina Department of Natural Resources in 1995, 1996, 1997, and 2020-2022 (SCDNR 1997, 2020a, 2021, 2022). In

2024, Fort Jackson retained Environmental Solutions & Innovations, Inc. (ESI) to conduct combined capture and acoustic surveys on Fort Jackson outside of MTC's licensed area, where TCBs were also detected and observed. The acoustic survey results have demonstrated that the primary habitat utilized by TCBs on McCrady Training Center is concentrated around riparian and bottomland hardwood habitats near flowing streams and open water, although they have also been detected in upland mixed hardwood/pine habitats.

As shown in Figure 19, the proposed MPMG analysis shows 6 forest types. Most of the available habitat found within the proposed MPMG Range analysis overlaps with the active and existing Main Tank Range. This area is heavily disturbed, it has experienced repetitive live ammunition fire during military training since WWII. Primarily dominated by earlier successional scrub oak habitat, this would most likely serve as foraging habitat for TCBs. However, this may not be the most suitable foraging habitat due to a lack of consistent water resources in the area. Please note the Beaten area referenced in Figure 19 is explained in detail in Section 4.6.

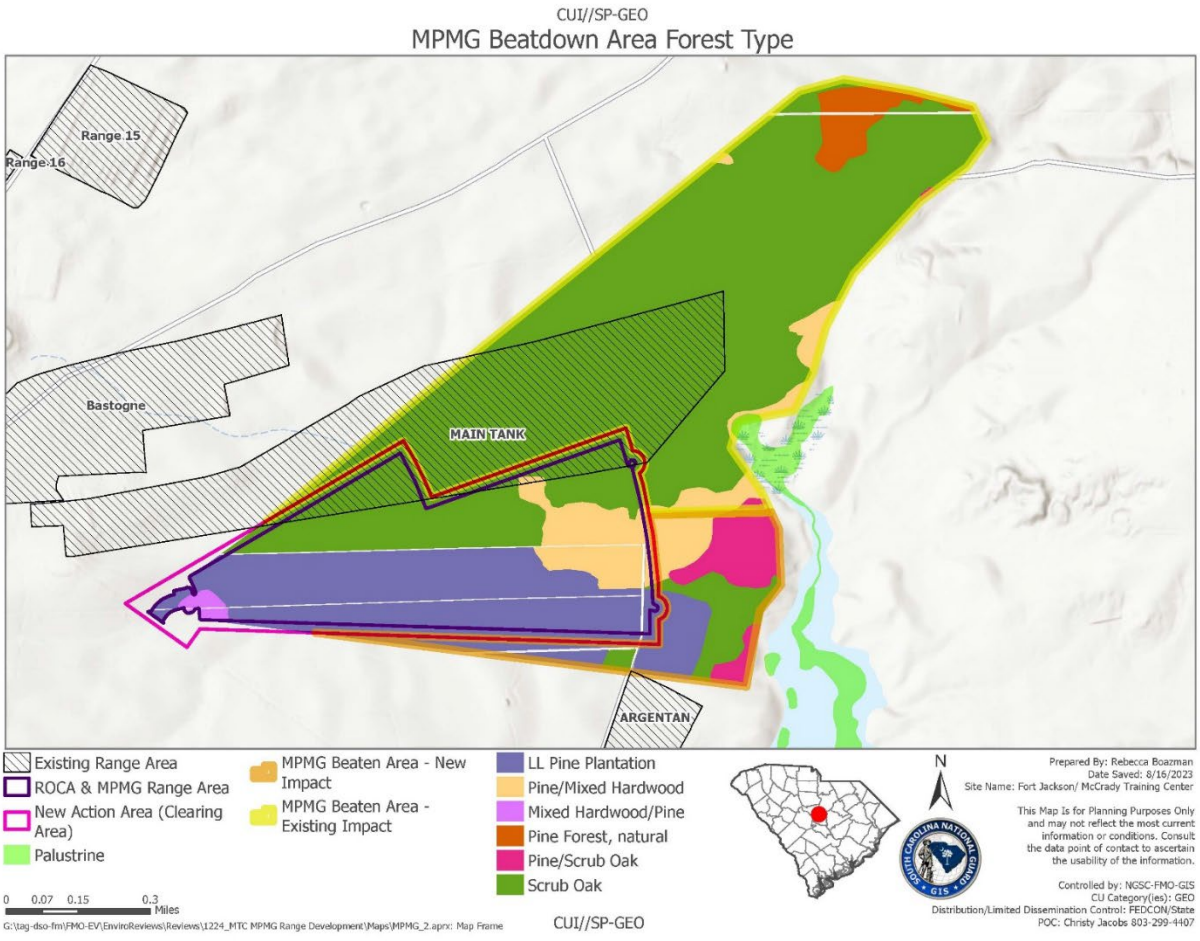

Figure 19: Forest Types within the MPMG Range

TCBs roost on live and dead trees in a variety of forested habitats, so roosting habitat exists in the range footprint, the Beaten Area, and in the area covered by SDZs in the form of live and dead trees, and other vegetation (USFWS 2023). The forest analysis reveals that only 32.58 relatively-continuous acres in both

the range footprint and beaten area provide potential roosting and maternity roosting (breeding season) trees that the bats might prefer, although all the acreage is potentially usable by bats. This species can hibernate in winter using culverts, bridges, tunnels, and abandoned water wells. There are three 'WW2 Bomb-proof observation posts' in the Beaten Area but these structures currently allow too much light inside for bats to roost.

An initial scoping letter requesting comments from the USFWS on a project involving multiple new ranges (Range Development Plan), including the proposed MPMG, was sent on 21 November 2011. The IICEP letter briefly described the Proposed Action and detailed the EA for 5 proposed ranges, including this project. The USFWS responded in letter reference FWS-2012-I-0063. Due to a lack of funding, and postponement of the project, the EA was never completed.

Informal consultation was reinitiated on March 30, 2020 for the construction of just this proposed MPMG range. A draft Biological Assessment was sent to the Charleston Field Office on 24 April 2023. A request for additional information was emailed to Fort Jackson on 24 May 2023. The additional information was returned to USFWS on 22 June 2023 and an in-person meeting was held between USFWS, Fort Jackson and SC Army National Guard staff to discuss the project on 27 June 2023. An on-line meeting was held on 26 July 2023 to discuss TCBs, this meeting included USFWS, Ft Jackson and SC Army National Guard. Formal consultation was initiated on March 11, 2024 and the USFWS CO was issued on August 7, 2024. Based on USFWS guidance and the analysis, the CO determines the construction and operation of the MPMG 'may affect and is likely to adversely affect' the Tri-colored bat (Proposed endangered species) and 'may affect but is not likely to adversely affect' the RCW (Threatened species). Based on the December 2024 proposed rule to change the listing of the Monarch butterfly from 'Candidate' to 'Proposed Threatened', the environmental team sent a request to USFWS to confirm the determination for the species in the 2023 BA was sufficient. On April 16, 2025, USFWS informally responded that since the Monarch Butterfly is proposed and does not have the full protection of a listed species under the ESA, we do not need to consult, at this time. Additionally, they responded that they do not have any voluntary conservation measures that would be relevant to the project.

Please refer to Appendix B or information on other animal or plant species listed in Richland County, South Carolina. If at any time additional information is discovered that would require a modification of this assessment, Section 7 consultation would be reinitiated.

3.8 Cultural Resources

Cultural resources are the physical evidence of our heritage. Cultural resources are defined in AR 200-1, Chapter 6 (DA 2007) as follows: historic properties as defined in the NHPA, cultural items as defined in Native American Graves Protection and Repatriation Act (NAGPRA), archaeological resources as defined in the Archaeological Resources Protection Act (ARPA), sacred sites as defined in EO 13007 to which access is provided under the American Indian Religious Freedom Act (AIRFA), and collections as defined in 36 CFR Part 79, Curation of Federally Owned and Administered Collections. Requirements set forth in the NEPA, NHPA, ARPA, NAGPRA, AIRFA, 36 CFR Part 79, EO 13007, and Presidential Memorandum on Government-to-Government Relations with Native American Tribal Governments define the basis of the Army's, including the ARNG's, compliance responsibilities for management of cultural resources. Regulations applicable to the Army's management of cultural resources include

those promulgated by the Advisory Council on Historic Preservation (ACHP) and the National Park Service (NPS).

Architectural and Archaeological Resources. The SCARNG has comprehensively surveyed the proposed MPMG construction site and the Proposed Action's Area of Potential Effect [APE] for cultural resources in accordance with Section 106 of the NHPA (36 CFR Part 800.4(a-b)). The SCARNG then applied the criteria of adverse effect, as stipulated in 36 CFR Part 800.5(a)(1), and determined that the Proposed Action would have no effect to historic properties, including historic architectural and archaeological sites.

The South Carolina SHPO concurred with this finding in written correspondence dated 13 December 2011 and again on 12 December 2019 (see Appendix A). The SHPO stated that, based on the information provided, no historic properties or archaeological resources that are listed on or eligible for listing on the NRHP would be affected by the Proposed Action. As such, no effects to cultural resources would be anticipated.

Tribal Resources. As described in Section 1.5.2, 13 federally recognized tribes were consulted in 2011 and again in 2019. Responding tribes did not identify any concerns regarding the Proposed Action, unless an inadvertent discovery of cultural materials is made during construction. As such, no effects to cultural resources would be anticipated (see Appendix A).

As part of the Proposed Action, the SCARNG would comply with the SCARNG ICRMP (SCARNG 2021-2026) and procedures codified in 36 CFR § 800.13(b) in the event of inadvertent discoveries of cultural items protected under NAGPRA during construction. As such, no adverse effects to Tribal resources of concern would occur through implementation of the Preferred Action Alternative.

Under the No Action Alternative, no effects to cultural resources would occur. Therefore, cultural resources are not further evaluated in this EA.

3.9 Socioeconomics

The existing socioeconomic characteristics are discussed in this section, including population, economics, and households of the communities. This section also includes the existing demographic profile for Richland County. As shown in Table 4, the US Census data was reviewed to establish the demographics and proposed population growth of the proposed study area.

The US Census data was reviewed to establish a demographic profile and proposed population growth of the area. As of July 1, 2023, the population of Richland County was estimated to be 425,138, which established the county as the second most populous in the state, behind only Greenville County. Richland County experienced a growth rate of over 2.2 percent between April 1, 2020 and July 1, 2023 and this population growth is projected to continue.

Table 4: Socioeconomic Characteristics

Characteristics	Richland County
Demographics	
Total Population	425,138
White	44.3 %
Minorities	49.4 %
Median Age	34.2 years
Housing	
Homeowners	60.4%
Median Value Home	$224,200
Median Gross Rent	$1,185
Economics	
Unemployment Rate	4.2%
Median Household Income	$61,699
Poverty Rate	15.9%

During the construction period, the Preferred Action Alternative would result in additional local construction jobs and provide minor incidental spending (i.e., to local shops, restaurants, and material and equipment suppliers). This would be expected to provide some additional opportunities and increases in local employment and personal income, a minor short-term positive effect.

During operation, the Preferred Action Alternative would result in periodic, short-term increases in the number of Soldiers at the MTC, with consequent increases in local incidental spending at shops and restaurants. These Soldiers would only be onsite during training exercises. Local population and residential occupancy (i.e., housing) would not change with implementation of the Proposed Action. No additional demands on local emergency services would be anticipated. The Proposed Action would provide training facilities for existing SCARNG Soldiers who would travel to the MTC from various locations across the State. As such, only minor long-term positive effects to the local economy (via incidental spending) would occur. No long-term population, employment, or emergency services effects would occur.

Because children may suffer disproportionately (i.e., more so than adults, due to physiological and behavioral differences) from environmental health risks and safety risks, EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, was signed by President Clinton in 1997. The intent of EO 13045 was to prioritize the identification and assessment of environmental health risks and safety risks that may affect children, and to ensure that Federal agencies' policies, programs, activities, and standards address environmental risks and safety risks to children. As the MTC currently serves a military purpose, the property is secure, and no children are present. Therefore, no adverse effects to children would occur.

No additional demands on local emergency services would be anticipated. As previously noted, the Proposed Action would result in additional local construction jobs and provide minor incidental spending in the local community. This would be expected to provide some additional opportunities and increases in local employment and personal income which could have a temporary positive impact on the local economy.

The No Action Alternative would have a negligible impact on socioeconomics. The proposed project would temporarily improve economic opportunities for local employment and existing businesses. Ongoing out-of-state travel by SCARNG

Soldiers to conduct appropriate training would continue, negating potential local economic gains. As such, socioeconomic effects are not discussed further within this EA.

3.10 Infrastructure

Utilities - Existing infrastructure is available to support the Proposed Action. Electrical utilities on Fort Jackson are provided by Dominion Energy. All electrical will connect to the existing Fort Jackson primary electrical line on Wildcat Road via installation of a new overhead utility line and right-of-way and will run onto the ROCA portion of the range for the support facilities and downrange to support the ATS operation. Electrical utilities would be installed along existing and proposed new access roads, and would not include any additional land area or ground disturbance. The current design will have 13 power poles and the right-of-way will be a length of 3,563 feet (Section 2.2 - Figure 7).

Water and Sanitary Sewer are not included in the proposed MPMPG design. Port-o-lets will be used at the proposed project and will be maintained under existing agreements for such work on Fort Jackson.

Traffic & Transportation - Existing transportation infrastructure is sufficient to support the Proposed Action. Access to the MTC, via the MTC cantonment area, is provided through a single, gated entrance on Leesburg Road (aka State Highway 262). Leesburg Road forms the southern boundary of both the MTC and Fort Jackson.

While the MTC and Fort Jackson are not entirely fenced, dense vegetation and topography reduces unauthorized access to the installation. Traffic on local roadways is very light, characteristic of rural roads within South Carolina. Although no traffic count data are available, the roads surrounding the MTC consistently have light traffic even at peak morning and evening commute times. This means that local traffic volume and flow is currently acceptable and well within design parameters.

Paved, graveled, and native-material surfaced roads are found throughout the MTC. The MTC has approximately 210 miles of roads: 6 miles of primary roads, 87 miles of secondary roads, and 117 miles of tank trails and firebreaks. Paved roads are primarily located within the MTC cantonment area. The loose surface and dirt roads are in the training and range areas outside of the MTC cantonment area, including within the proposed MPMG footprint. The proposed MPMG design includes two driveways which will connect to the existing Guadalcanal Road. Existing road networks are sufficient to support construction and range access. Both Fort Jackson and the SCARNG regularly implement routine road maintenance activities to maintain the roads and trails throughout the training areas in a serviceable condition.

3.11 Hazardous and Toxic Materials and Wastes

Hazardous and toxic materials or substances are generally defined as materials or substances that pose a risk (through either physical or chemical reactions) to human health or the environment. Regulated hazardous substances are identified through several Federal laws and regulations. The most comprehensive list is contained in 40 CFR Part 302, and identifies the specific quantities of these substances which, when released to the environment, require notification to a federal agency.

Hazardous wastes, defined in 40 CFR Part 261.3, are considered hazardous substances. Generally, hazardous wastes are discarded materials (solids or

liquids) not otherwise excluded by 40 CFR Part 261.4 that exhibit a hazardous characteristic (i.e., are ignitable, corrosive, reactive, or toxic), or are specifically identified within 40 CFR Part 261. Petroleum products are specifically exempted from 40 CFR Part 302, but are also generally considered hazardous substances due to their physical characteristics (especially fuel products), and their ability to impair natural resources.

The management of hazardous materials and wastes at the MTC is conducted in accordance with the MTC's Hazardous Material and Waste Management Plan (HMWMP; SCARNG 2016). The HMWMP establishes procedures and policies, and assigns responsibilities associated with the generation, handling, use, management, transportation, and disposal of hazardous materials and hazardous wastes at the MTC. The policies and procedures outlined in the HMWMP are consistent with the requirements of the Resource Conservation and Recovery Act (RCRA), the South Carolina Hazardous Waste Management Act as amended, AR 420-47, AR 420-76, AR 200-1, and other applicable Federal, State, and local regulations. The MTC HMWMP details the SCARNG's procedures for the proper characterization and disposal of known and potentially hazardous waste.

The MTC's Spill Prevention, Control, and Countermeasure Plan (SPCCP) describes measures employed by the SCARNG to limit pollution (from spills) from onsite activities. The SPCCP identifies potential risks, preventative measures, required training, spill response procedures, and other elements necessary to minimize potential adverse effects to the environment, and to respond adequately and quickly to such events should they occur (SCARNG SPCCP 2018).

MTC is classified as a Very Small Quantity Generator (VSQG). Generally, the materials generated by the SCARNG at the MTC and classified as hazardous waste are small quantities of expired chemicals, Petroleum, Oil and Lubricants (POL) contaminated absorbent materials and spill dirt. The use of pesticides at the MTC for insect and noxious weed control is contracted with certified operators and no application equipment or pesticides are stored onsite. The SCARNG has two underground storage tanks, permitted by SCDES (permit #17453), at MTC; one 20,000-gallon and one 25,000-gallon. Fueling areas within the MTC contain all required and appropriate secondary containment systems. All waste materials are discarded in the MTC cantonment area and removed by a private contractor or waste disposal company.

3.11.1 Environmental Condition of Property

The SCARNG completed an Environmental Baseline Survey (EBS), also known as a Pre-Construction Site Selection (PSS), for the Proposed Action in 2013 (see Appendix C) and was updated in 2024, in accordance with the requirements of the Army National Guard's "Environmental Condition of Property Process Handbook" (ARNG 2024).

Th EBS/PSS was performed to identify potential environmental concerns that could pose issues, limitations, or constraints to construction and operation of the Proposed Action, including potential adverse effects to construction workers and future users. This primarily includes identifying Environmental Condition of Property (ECOP)/MILCON Category I, II, and III parcels (USAEC 1999; AR 200-1), defined as follows:

Category I - There is no reason to suspect contamination will be encountered during construction. For sites classified as Category I, the results of the EBS/PSS can be recorded in the environmental documentation associated with

the construction project, and no further investigation is required.

Category II - There is no known contamination, but there remains some potential that contamination may be encountered during construction. Sites classified as Category II in the EBS/PSS must be further investigated with an environmental survey technique.

Category III - The site is known to be contaminated or there is a strong suspicion contamination will be encountered during construction. Even though the site is classified as a Category III, it may still be a feasible construction site because of the nature of contamination or the capability to clear the construction site.

According to the most recent Operational Range Assessment (ORA) Cycle Advanced Assessment Report–Fort Jackson / McCrady Training Center (MTC), South Carolina (United States (U.S.) Army Fiscal Year (FY) 18-22), the 62 ranges on Fort Jackson consist of firing ranges, small arms ranges, and training areas totaling 14,895 acres. Based on data collected during the Phase I Assessment, the proposed MPMG construction will occur in an area of operational ranges at MTC. The existing ranges in the proposed construction area have been placed into the Inconclusive Group. Based on current and historical military munitions usage at MTC and a review of potential migration pathways and potential human and/or ecological receptors, a total of 48 existing ranges, covering 12,243 acres, were identified as having the potential for munitions constituents of concern (MCOC) to migrate off-range and affect human and/or ecological receptors. At the completion of the Phase I Assessment process, installations with ranges in the Inconclusive category will be prioritized for further analysis during Phase II Quantitative Assessments (Appendix C).

The 2024 site reconnaissance and document review did not indicate any substantial changes to the environmental condition of the property and/or property use limitations since the 2013 PSS. As discussed in the 2013 PSS, in accordance with DoD policy defining the classifications, the target property has been overall classified as Category I with UXO areas classified as Category III. All UXO areas will be cleared by USACE prior to the beginning of construction. Therefore, the SCARNG has determined the subject property to be suitable for the proposed MPMG construction.

SECTION 4: ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This section describes the scientific analysis for the comparison of alternatives, providing a clear basis for choice between reasonable alternatives. Section 4 also identifies the potential direct, indirect, and cumulative effects of implementing the Proposed Action under the Preferred Action Alternative and the No Action Alternative. This Section discusses effects on each of the Technical Resource Areas presented in Section 3 and compares potential effects of the considered alternatives.

The level of detail provided for each Technical Resource Area corresponds with the level of potential effect to that resource from each of the two considered alternatives. Effects are described and identified as positive, minor (does not exceed significance thresholds but may result in acceptable change to the physical environment), adverse, or no effect.

Specific, prescriptive, and detailed mitigation measures are identified for any significant adverse effects, including identification of whether implementation of the measures would reduce the identified impact to below the state threshold of significance. Each mitigation measure is discussed in detail to show accountability, timeframe, objectives, and any additional information to demonstrate the likely success of the mitigation measure.

Per established protocols, procedures, and requirements, the SCARNG would implement BMPs and would satisfy all applicable regulatory requirements in association with the design, construction, and operation of the Proposed Action under the Preferred Action Alternative.

The BMP measures identified are included as components of the Preferred Action Alternative. These measures are defined as routine BMPs and/or regulatory compliance measures that the SCARNG regularly implements as part of their activities, as appropriate, across the State of South Carolina and at the MTC. These are different from “mitigation measures”, which are defined as project-specific requirements, not routinely implemented by the SCARNG, necessary to reduce identified potentially significant adverse environmental effects to less-than-significant levels.

As identified in Section 4.7, the SCARNG would implement the Biological Resource mitigation measures within the proposed MPMG footprint to avoid potentially significant adverse effects to the RCW and TCB. Implementation of the above mitigation measures would ensure identified effects are reduced to less-than-significant levels.

As previously discussed, the proposed footprint for the range is approximately 208 acres including the Range Operations and Control Area (ROCA): however, not all 208 acres will be disturbed. The proposed SCARNG clearing plan indicates that the area of disturbance is approximately 34 acres. Within the 34 acres illustrated in Figure 4, construction will require grubbing, grading, and the construction of targets and infrastructure. Approximately 204 of the 208 acres of the footprint are within an existing duded range impact area (East Impact Area, EIA). The remaining 4 acres are a portion of the 90 acres of longleaf pine planted and managed since 2003. The proposed project will consist of a 6-lane MPMG range and the ROCA. Two lanes will be standard 800-meter lanes and the remaining four lanes will be standard 1,500-meter target lanes. No moving

infantry targets are proposed for the construction of the MPMG.

4.2 Land Use

The project site is located within the MTC's licensed area of Fort Jackson. The proposed MPMG range will be located, within the duded impact area, on an existing active range complex that is managed by Fort Jackson (Figure 3). The existing Main Tank Range overlaps the northern edge of the MPMG footprint; based on this overlap, Main Tank Range will not be able to fire at the same time as MPMG.

The Impact Area is an existing 5,790-acre area where weapons, bombs, explosive munition, etc. have been and can be fired or detonated. Fort Jackson has had field artillery operations since World War I. Figure 3 highlights all existing active SDZs firing into the small arms impact area including the proposed MPMG range footprint. The map clearly shows that active ranges are all firing upon the proposed MPMG SDZ. The location of the active field artillery target box is also highlighted within the impact area. Artillery rounds are fired from designated firing points in the licensed area into the target box which is the only existing area where artillery rounds can make impact. An artillery round is a weapon system that requires a crew or more than one individual to function due to its high operational complexity and includes big guns, howitzers, or mortars having a caliber greater than that of small arms, or infantry weapons. The map shows that the artillery box is located within the middle of the MPMG SDZ which covers a vast amount of viewable area.

According to Richland County, Fort Jackson Military Base is surrounding by rural, commercial, industrial, and residential zoning designations (Figure 9). The proposed MPMG construction is approximately 2 miles from the closest boundary of Fort Jackson Military Base.

The proposed MPMG footprint is located within an existing duded impact area. According to the US Code (10 USC 101), the impact area is considered part of the operational range and a DoD military training asset. 10 USC 101 (f)1 confirms that the term "range" includes impact areas and (f) 3 states that "although not currently being used for range activities, that is still considered by the Secretary to be a range and has not been put to a new use that is incompatible with range activities." According to 10 USC 101 (f) the location within the duded impact area itself defines the Proposed Action area as a range.

https://uscode.house.gov/view.xhtml?req=(title:10%20section:101%20edition:prelim)%20

The preferred alternative is compatible with the current and future land use plans and zoning. According to the US Code (10 USC 101), the impact area is considered part of the operational range and a DoD military training asset. 10 USC 101 (f)1 confirms that the term "range" includes impact areas and (f) 3 states that "although not currently being used for range activities, that is still considered by the Secretary to be a range and has not been put to a new use that is incompatible with range activities."

No adverse land use effects or significant changes in land use or land management would occur due to modernizing and operating training ranges within the existing impact area. Additionally, no off-post land uses would be directly affected. As such, no direct or indirect adverse land use effects are anticipated.

The No Action Alternative would have a negligible impact on land use. The proposed project area would still be in the existing impact area and active ranges would continue to fire upon the MPMG SDZ. The No Action alternative would not meet the Purpose and Need to provide an adequate facility for SCARNG units to train on Crew-served weapons on MTC.

For land use, no projection specific mitigation measures to reduce adverse impacts to below significant levels would be necessary.

4.3 Air Quality

In accordance with Federal Clean Air Act (CAA) requirements, the air quality in each region or area is measured by the concentration of criteria pollutants in the atmosphere. The air quality in a region is a result of not only the types and quantities of atmospheric pollutants and pollutant sources in an area, but also surface topography, the size of the topological “air basin,” and the prevailing meteorological conditions.

The ambient air quality in an area can be characterized in terms of whether it complies with the primary 1023 and secondary National Ambient Air Quality Standards (NAAQS). The CAA, as amended, requires the 1024 USEPA to set NAAQS for pollutants considered harmful to public health and the environment. NAAQS are provided for six principal pollutants, called “criteria pollutants” as listed under Section 108 of the CAA: 1026 carbon monoxide (CO); lead (Pb); nitrogen oxides (NOx); ozone (O3); particulate matter (PM), divided into 1027 two size classes of (1) aerodynamic size less than or equal to 10 micrometers (PM10), and (2) aerodynamic 1028 size less than or equal to 2.5 micrometers (PM2.5); and sulfur dioxide (SO2). Based on the United States Environmental Protection Agency (USEPA) list of Nonattainment status for each county by year report, the Proposed Action (Richland County) been designated a full attainment area since 1992.

The proposed range was evaluated to determine if an air quality permit would be required. The proposed MPMG range and operation are not considered as part of the Ft. Jackson source per the 1996 EPA Memo on Military Installations. Because the National Guard is controlled by States, the EPA believes it is appropriate to treat National Guard units located at military installations as being under separate control from the military services. Therefore, the emissions from the range were evaluated as a separate source. This process was coordinated with Fort Jackson.

(https://www.epa.gov/sites/default/files/2015-07/documents/dodguid.pdf)

The TAMIS is the DCS, G–3/5/7’s real-time, web-based application for managing munitions requirements, authorizations, forecasts, requests and expenditures. In parallel with TAMIS, the Standards in Training Commission (STRAC)/DA Pam 350–38 (STRAC) is responsible for ensuring these systems remain updated and contain only DCS, G–3/5/7-approved munitions resourcing strategies. STRAC contains all DCS, G–3/5/7–approved individual and collective weapons training strategies that require Army munitions. These strategies are also contained in TAMIS to facilitate management of training requirements.

The Standards in Training Commission (STRAC) data (DA PAM 350-38, *Training, Standards in Training Commission*) provided the STRAC standard and STRAC strategy. The STRAC standard is the total types and quantities of all munitions required to execute individual qualification and crew certification tasks and a field training exercise each year, as defined in DA Pam 350–38. The standard is the minimum quantity of ammunition that the Army requires for a

given year for training at home stations. The STRAC strategy is the total types and quantities of all munitions required to execute 100 percent of the home station training strategy each year, as defined in DA Pam 350–38. The strategy reflects the maximum ammunition requirement for a given year. The standard and strategy totals were calculated using 2023 ammunition requirements for the SCARNG. A complete set of 2024 data is not yet available; therefore, it was determined 2023 would give the most accurate prediction for the proposed use of the MPMG range. To account for any future change to force structure, the STRAC standard and STRAC strategy numbers were doubled. DOD/Naval Ordnance Safety and Security emission factor databases for all small arms and ordnances was used to calculate air emissions for the proposed range.

Based on the round count, or the amount of ammunition a soldier carries depending on the mission, weapon system, or the soldier's role, being a) beyond the recruitable population in the state using the current 2023 STRAC firing schedule or b) using the current force structure with the unrealistic assumption that a future STRAC firing schedule would be double the 2023 schedule, the SCDHEC (now SCDES) determined the proposed MPMG range is exempt from the requirement to obtain an air quality permit or submit air dispersion modeling, for all possible purposes.

For air quality, no projection specific mitigation measures to reduce adverse impacts to below significant levels would be necessary.

4.3 Noise

Noise is generally defined as unwanted sound. It can be any sound that is undesirable because it interferes with communications or other human activities, is intense enough to affect hearing, or is otherwise annoying. Noise may be intermittent or continuous, steady, or impulsive. Human response to noise varies, depending on the type of the noise, distance from the noise source, sensitivity, and time of day.

As previously discussed, the proposed MPMG range construction will be located, within the duded impact area, on an existing active range complex that is managed by Fort Jackson. Therefore, noise-producing activities currently take place within the boundary of the MTC and Fort Jackson, including noise generated from existing range use, construction projects, vehicular traffic (i.e., POVs and GOVs, including M1A1 Tanks and Bradley Fighting Vehicles), various types of military training, and helicopter traffic. Noise produced at Fort Jackson and the MTC is managed in accordance with the Fort Jackson ONMP (USACHPPM 2009).

In accordance with AR 200-1, the army uses a system that partitions noise into three zones with each representing an area of increasing noise (Table 3).

The Range Managers Toolkit (RMTK) Noise Tool was used to evaluate potential noise situations that could impact both on-and/or off-post communities. Unlike topographic contours, noise contours are not intended to be a precise delineation of the Noise Zones. Factors such as meteorological conditions and the receiver's perception of the source can influence the level or impact of perceived noise. The noise zones are intended to provide the best available method to quantify noise impacts and assist in the decision-making process. The Noise Tool allows Range Managers to place noise contours in the context of other map layers to gain better situational awareness of their range complex and take action to mitigate complaints by performing analysis to determine the likelihood of receiving a noise complaint due to training or testing operations, based on weather conditions and the system being trained on or tested. Noise Contours:

The extents of specified decibel levels for training events based upon weapon system, projectile, and environmental conditions such as wind speed/direction, cloud cover, temperature, etc. These noise contours can be used to predict when/where noise impacts are expected to be encountered.

Construction: During construction of the proposed Preferred Action Alternative, standard construction equipment would generate noise within the proposed MPMG footprint and immediately surrounding area. Noise resulting from construction of the Preferred Action Alternative would be localized and short-term. Construction would occur during normal business (i.e., daylight, weekday) hours. Although off-Post residential areas and two churches are approximately 2 miles away, retained forest vegetation on MTC between the proposed construction sites and these receptors would reduce construction noise. In addition, construction noise would be largely concealed by existing public traffic on local roads and ongoing military training at the installation. As such, only short-term, localized, de minimis noise effects would occur during the construction period.

Operation: Existing on-Post ranges include a Combat Pistol Qualification Range, a 25-meter Zero Range, a 5.56mm Qualification Training Range, a Tank Range, and an AT-4 9mm Training Range. Figure 3 depicts the locations of existing Fort Jackson and MTC training ranges.

Current activities at on-Post small arms ranges utilize the following weapons: M4 carbine (5.56mm), M249 machine gun, M240 machine gun (7.62mm), M2 .50 caliber machine gun, M249 squad automatic weapon (SAW), 9mm pistol, .45 caliber pistol, and 12-gauge shotgun. Activities at these small arms ranges currently produce Zone II & Zone III noise contours.

Large arms training activities include limited firing of the 155mm self-propelled howitzer (i.e., over a period of approximately 3 to 8 days per year). While an uncommon occurrence, this weapon system can produce peak blast noise heard up to 1 mile beyond the southern and eastern boundaries of Fort Jackson.

The proposed .50 caliber activity of the MPMG Range would result in little or no increase of noise sources from existing operations because an existing range using the same munitions overlaps the proposed MPMG Range. Furthermore, the proposed MPMG range is located within an existing impact area on an existing range complex. Figure 3 highlights all existing active SDZs firing into the small arms impact area including the proposed MPMG range footprint. The map clearly shows active ranges are all firing upon the proposed MPMG SDZ. The map also shows the field artillery box is located within the middle of the MPMG SDZ. An artillery round is a weapon system which requires a crew or more than one individual to function due to its high operational complexity and includes big guns, howitzers, or mortars having a caliber greater than that of small arms, or infantry weapons. Therefore, operational noise levels would not change significantly and any anticipated noise impacts would be minimized due to the site's distance from housing or other noise-sensitive receptors. Negligible noise effects are anticipated from temporary construction activities.

Zone II may increase in size near the proposed MPMG range, but all MPMG associated noise contours would not extend beyond the installation boundary (Figure 16).

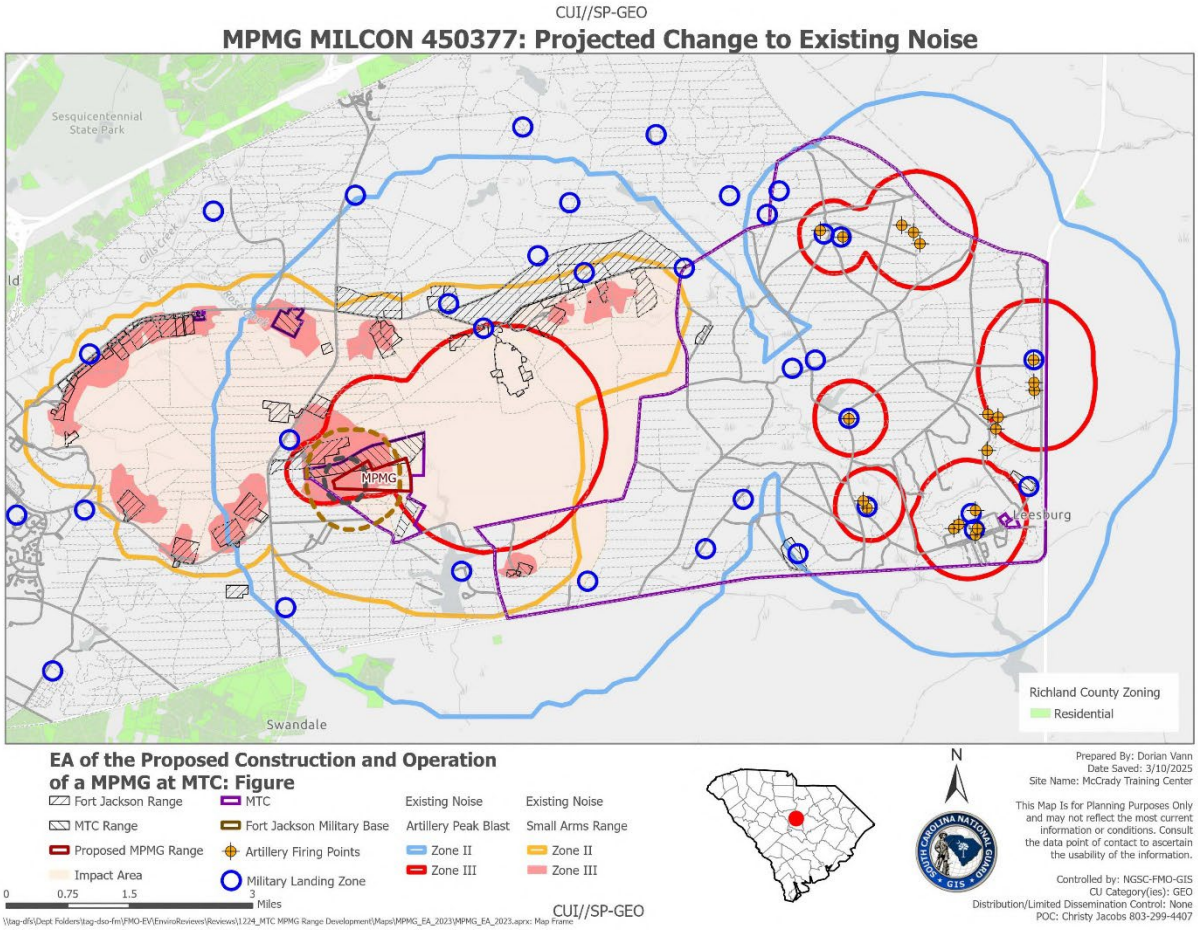

Figure 16: Existing & Projected Noise

Under the No Action Alternative, negligible noise effects would occur. The existing noise environment, consisting of military training and vehicular traffic noise, would continue under current conditions. The SCARNG would continue to manage noise in accordance with the Fort Jackson ONMP (2019).

For noise, no projection specific mitigation measures to reduce adverse impacts to below significant levels would be necessary.

4.4 Geology, Topography & Soils

Under the Preferred Action Alternative, construction of the proposed training ranges and utility infrastructure would disturb up to 208 acres. As previously discussed not all 208 acres will be disturbed. The proposed SCARNG clearing plan indicates that the area of disturbance is approximately 34 acres. Within the 34 acres illustrated in Section 2.2 Figure 4, construction will require grubbing, grading, and the construction of targets and infrastructure. Approximately 204 of the 208 acres of the footprint are within an existing duded range impact area (EIA). The remaining 4 acres are a portion of the 90 acres of longleaf pine planted and managed since 2003. Ground-disturbing activities would occur within previously disturbed areas primarily within an active, duded impact area.

Overall, no significant adverse effects to geology, topography, or soils would

occur. As defined in the ARNG NEPA Manual (2012), a significant effect to geology, topography, and soils could occur if a Proposed Action would result in an increased geologic hazard or a change in the availability of a geologic resource. Such geologic and soil hazards would include, but not be limited to, seismic vibration, land subsidence, extensive soil erosion, and slope instability. In addition, if an alternative would result in a substantial change in topography at an affected site, it could have a significant effect.

Soils. As identified in Section 3.5, soils within the proposed construction footprints have K factors that range from 0.02 to 0.10, indicating low erodibility. Within each proposed construction footprint, the ground surface would be cleared of existing vegetation, graded, and prepared for installation of the proposed range and infrastructure components. Since more than one (1) acre of ground would be disturbed by construction, the SCARNG would obtain a construction NPDES stormwater permit, including preparation and implementation of a project-specific SWPPP, from the DHEC prior to construction. Short-term, minor soils effects during construction would be maintained at acceptable levels through compliance with the regulatory agency (permitting) requirements of the SCDES and implementation of BMPs outlined in the permit. With proper design and implementation of the SWPPP, effects from erosion and off-site sedimentation would be negligible.

In addition, the SCARNG would comply with the including compliance with the design elements and management measures described in the Army Small Arms Training Range Environmental Best Management Practices Manual (Fabian and Watts 2005) and Prevention of Lead Migration and Erosion from Small Arms Ranges (USAEC 1998). With implementation of these BMPs, adverse construction soils effects would be minimized to acceptable levels.

Prime Farmland Soils. No prime farmland soils exist within the proposed construction footprints. As such, no effects to prime or unique farmlands are anticipated.

Geology. No effects to the local geology are anticipated, as no deep excavation is proposed.

Topography. Only minimal topographic changes would occur within the proposed MPMG footprint, as the proposed construction area is generally flat and has been previously used as non-live fire ranges and training areas. No major topographic changes are proposed. As such, only minimal effects to local topography are anticipated.

Operation. During operation, no additional disturbance to geology, topography, or soils would be anticipated. The SCARNG would continue to implement appropriate operational soil erosion control methods and adhere to the BMPs presented in this document, including the guidelines set forth in the Army Prevention of Lead Migration and Erosion from Small Arms Ranges Manual (USAEC 1998) and the Army Small Arms Training Range Environmental Best Management Practices Manual (USAEC 2005). These operational BMPs would ensure long-term soils effects are maintained at acceptable levels. As such, only de minimis long-term effects would be anticipated.

Under the No Action Alternative, the geologic, topographic, and soils conditions within the proposed MPMG footprint would not change due to the Proposed Action, and no effects would be anticipated.

For geology, topography, and soils, no projection specific mitigation measures to reduce adverse impacts to below significant levels would be necessary.

4.5 Water Resources

No wetlands are present in the proposed MPMG footprint. During construction, compliance with NPDES construction permit, including implementation of a project-specific SWPPP would ensure sedimentation effects are minimized.

Soil erosion and consequent sedimentation of surface water resources during construction of this type of Proposed Action were determined to be the “most common risk to the quality of water resources” (USAEC 2013). The closest wetland area is approximately 1.1 miles from the proposed MPMG firing points. While surface water features could be affected from construction soil erosion and consequent sedimentation, implementation of the soil erosion control measures identified through the construction permitting process would ensure these effects are maintained at negligible levels.

Groundwater is plentiful in the Proposed Action area. Fort Jackson, including the MTC, is not located within a recharge area for a sole-source aquifer. The water table is encountered at an average depth of 90 to 200 feet below ground surface.

No designated "impaired" streams or Coastal Zones would be affected by the Proposed Action.

According to the most recent Operational Range Assessment (ORA) Cycle Advanced Assessment Report–Fort Jackson / McCrady Training Center (MTC), South Carolina (United States (U.S.) Army Fiscal Year (FY) 18-22), the 62 ranges on Fort Jackson consist of firing ranges, small arms ranges, and training areas totaling 14,895 acres. Based on data collected during the Phase I Assessment, the proposed MPMG construction will occur in an area of operational ranges at MTC. The existing ranges in the proposed construction area have been placed into the Inconclusive Group. Based on current and historical military munitions usage at MTC and a review of potential migration pathways and potential human and/or ecological receptors, a total of 48 existing ranges, covering 12,243 acres, were identified as having the potential for MCOC to migrate off-range and affect human and/or ecological receptors. At the completion of the Phase I Assessment process, installations with ranges in the Inconclusive category will be prioritized for further analysis during Phase II Quantitative Assessments (Appendix C).

Operation of the proposed MPMG Range may result in additional amounts of lead to be deposited into the existing duded impact area. As a reminder, the existing Main Tank Range overlaps the northern edge of the MPMG footprint; based on this overlap, Main Tank Range will not be able to fire at the same time as MPMG. The SCARNG will design and operate the proposed MPMG to minimize the migration of metals. The SCARNG would also manage and operate the proposed ranges in accordance with the guidelines set forth in the Army Prevention of Lead Migration and Erosion from Small Arms Ranges Manual (USAEC 1998) and the Army Small Arms Training Range Environmental Best Management Practices Manual (USAEC 2005). Compliance with these BMPs would ensure operational effects to surface water resources are minimized.

As identified in Section 3.6, there are no surface waters present in the proposed MPMG footprint. Surface waters in the SDZ are located within an existing duded impact area. Through intentional design and operational management of the proposed ranges, effects to these surface water features would be minimized. As stated above, the closest wetland area is approximately 1.1 miles from the proposed MPMG firing points.

Operation of the Preferred Action Alternative would not be anticipated to reduce the quantity or quality of water resources for existing or potential future use, cause substantial flooding or erosion, or subject people or property to flooding

or erosion. The SCARNG would specifically comply with the Army's Sustainable Design and Development Policy (Environmental and Energy Performance) (DA 2010), the DoD's Policy Concerning Implementation of Storm Water Requirements under Section 438 of the EISA (Office of the Under Secretary of Defense 2010), and the USEPA's Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the EISA (USEPA 2009). The proposed ranges would be designed, constructed, and operated to ensure post-project hydrology mirrors pre-project hydrology in terms of quantity and quality.

Under the No Action Alternative, no effects to water resources or wetlands would occur as the Proposed Action would not be implemented. Ongoing activities at the MTC would continue as under current conditions.

During construction, compliance with NPDES construction permit, including implementation of a project-specific SWPPP would ensure sedimentation effects are minimized.

For water resources, no projection specific mitigation measures to reduce adverse impacts to below significant levels would be necessary.

4.6 Biological Resources

The first action to be analyzed is the proposed MPMG range and ROCA footprint. The proposed SCARNG MPMG Range footprint is 208 acres, not all 208 acres will be disturbed. The proposed SCARNG clearing plan indicates that the area of disturbance is approximately 34 acres. Within the 34 acres illustrated in Section 2.2 Figure 4, construction will require grubbing, grading, and the construction of targets and infrastructure. Approximately 204 of the 208 acres of the footprint are within an existing duded range impact area (East Impact Area, EIA). The remaining 4 acres are a portion of the 90 acres of longleaf pine planted and managed since 2003. The maximum construction limit for the range is currently composed of the following habitat types: 101.49 acres of Longleaf pine plantation, 72.88 acres of Scrub Oak (currently impacted by other ranges), 18.12 acres of Longleaf pine forest, 6.46 acres of Mixed Pine/Hardwood, 5.01 acres of open roads, and firebreaks, 4.04 acres of Hickory-Longleaf Forest.

Biological resources were analyzed in detail in the 2023 SCARNG Integrated Natural Resources Management Plan (INRMP) and in the 2023 Biological Assessment and corresponding USFWS Conference Opinion (CO).

Based on the known and proposed special status species, a BA was prepared, including a site-specific literature review and field survey to determine the presence of, and potential effects to special status species.

The second action to be analyzed is the operation of the MPMG range. One area of effect is the 4,796-acre surface danger zone (SDZ) which is a buffer zone that accounts for projectiles, fragments, debris, and components resulting from the firing of weapon systems during the operations phase of the range. The SDZ falls within the duded East Impact Area where weapons, bombs, explosive munitions, etc. have been and can be fired or detonated. Fort Jackson has had field artillery operations in this location since World War I.

The 4,796-acre SDZ which is a buffer zone that accounts for projectiles, fragments, debris, and components resulting from the firing of weapon systems during the operations phase of the range. The SDZ falls within the East Impact Area, which is a designated area in which weapons are generally fired into, producing ordinance impacts or detonations. To predict the down-range impact to trees within the SDZ, resulting from live-fire operations conducted on the

range, our analyses resulted in a 587-acre 'beaten area' (Figure 17). The Beaten Area was designed to predict the area where most of any tree damage or mortality would take place. The area outside the Beaten Area in the SDZ is expected to remain a forested habitat with negligible damage to trees and no predicted additional mortality.

The MPMG range will be active approximately 85 to a maximum of 100 days per year, based on the anticipated demands of military units with the requirement to qualify on the MPMG. Range qualification days will mostly occur on drill weekends and annual training periods with approximately 3 consecutive active qualification days for each event. The weapons planned for this range (Table 1) use primarily lead-based ammunition and no high explosive munitions will be used. There will be no increase in ammunition fired because both Main Tank and MPMG ranges use 0.50 cal and cannot be active at the same time. On average, the MPMG range will only be used during daylight hours.

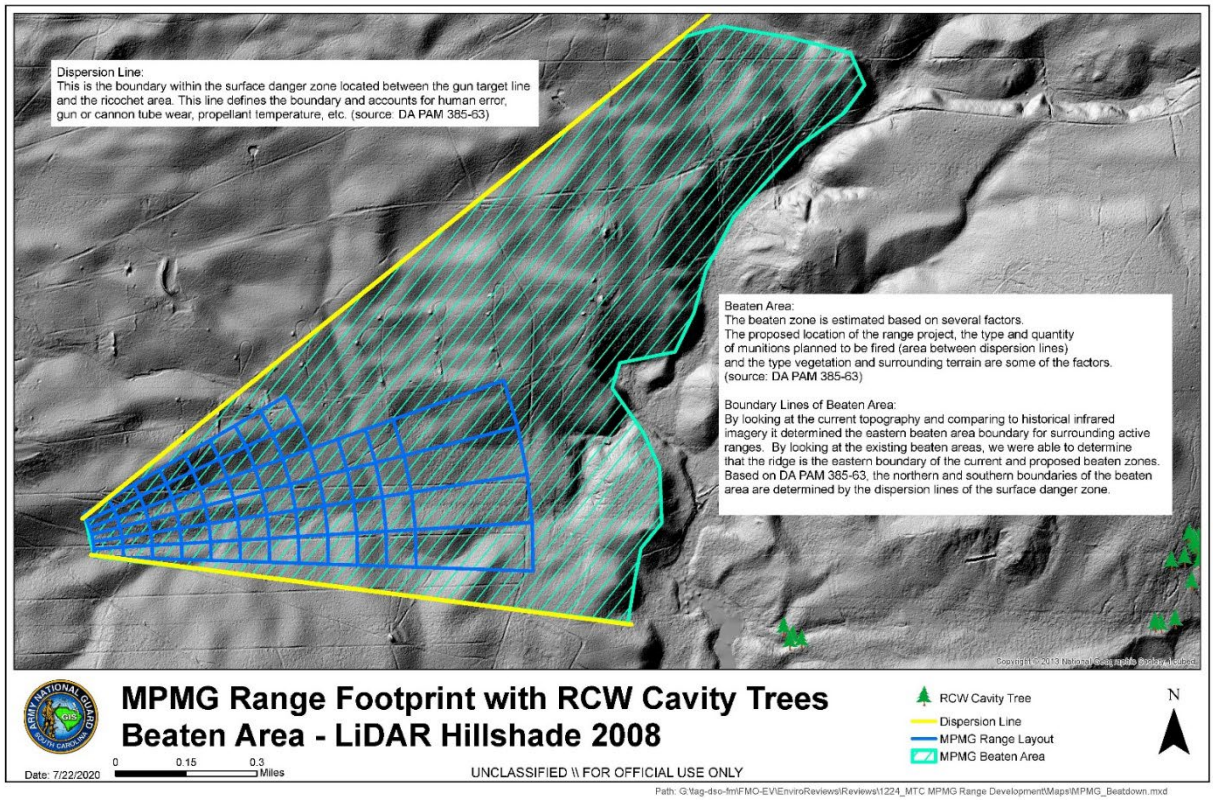

Figure 17: MPMG Beaten Area with hillshade

Based on USFWS guidance, SCARNG divided the Beaten Area into two parts. The area to the north that overlaps with the existing Main Tank Range represents a baseline habitat (323.69 acres) because this area is already impacted by firing from existing ranges and tree damage is present (Figure 18). The proposed MPMG is a new action but may not change the baseline habitat appreciably. New impacts are anticipated within the footprint (208 acres) and in the predicted beaten area (64.21 acres; Figure 18).

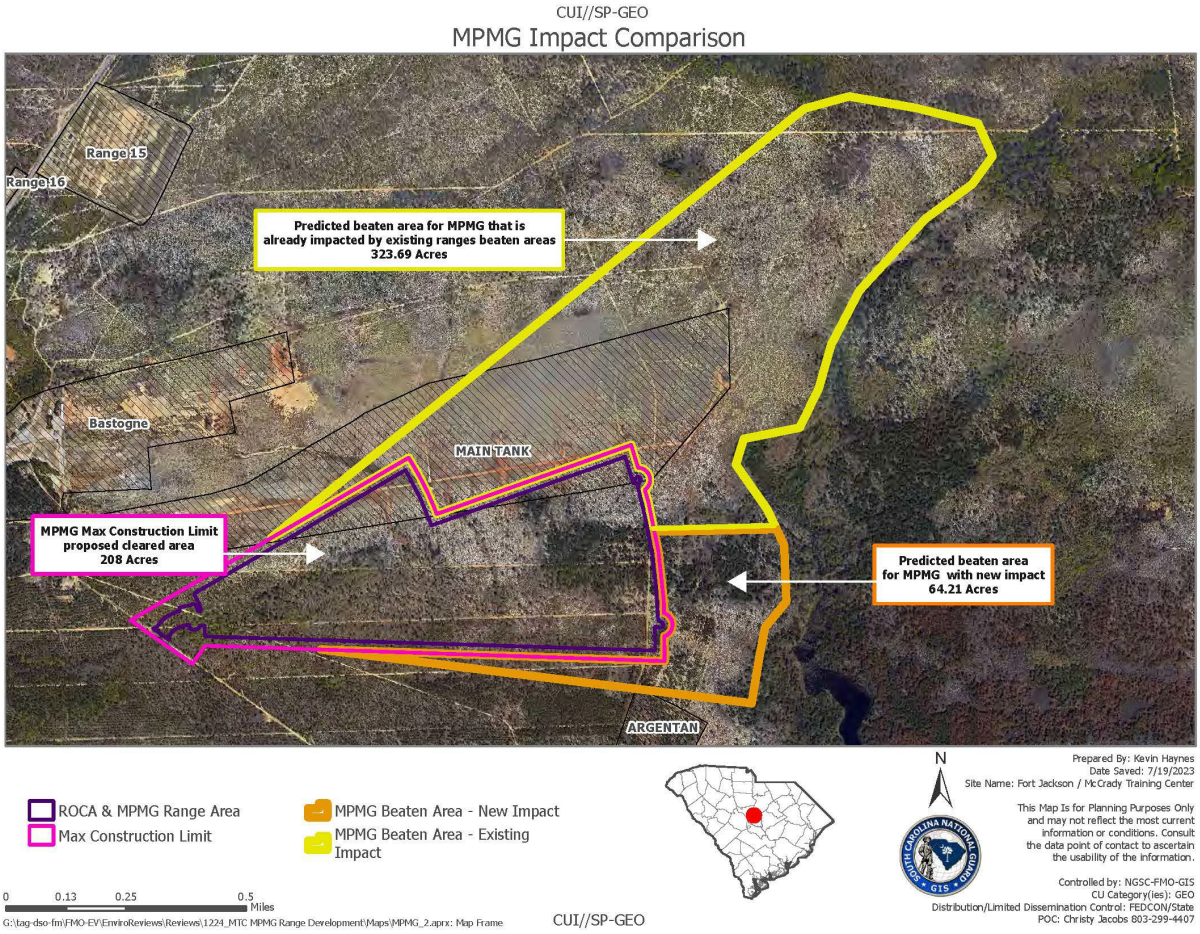

Figure 18: MPMG Beaten Area Divided

The RCW is federally listed as a Threatened species and state listed as endangered in South Carolina. Fort Jackson actively manages an increasing population of RCWs as described in the Integrated Natural Resources Management Plan (U.S. Army 2017) as well as an Endangered Species Management Component (ESMC) which details monitoring and management actions for the RCW.

On Fort Jackson, the RCW HMU, an area to be managed for current and future use by RCWs, is divided into two HMAs. As discussed in Section 3.7, the first is the LMA where specific RCW management practices cannot be used due to the presence of unexploded ordnance. The second is the SDMA where standard management of the RCW and its habitat is possible. The LMA consists of approximately 4,485 acres and includes the entire EIA.

There are currently 3136.5 acres of potentially suitable habitat within the EIA LMA that support 9 clusters of RCW (Figure 24). Eight of the clusters were covered by 'take' for munitions firing into the area and limited ability to access the area in the most recent 2013 Biological Opinion (BO) (USFWS 2013, FWS Log No. 2013-F-0207), they include clusters Imp-A through Imp-H. Cluster Imp-I was found in 2016. All clusters were analyzed for the effects of this new range. Removing 94.8 acres will leave 3,041.7 acres to support 9 clusters. In Fort Jackson's ESMC each cluster needs at least 200 acres of foraging habitat, which would require a minimum of 1,800 acres. Therefore, this project will leave a

surplus of acreage to support existing clusters in the LMA.

The Range footprint maximum construction limit is 0.03 miles away from the nearest RCW half-mile foraging partition (Cluster IMP-I, Figure 19).

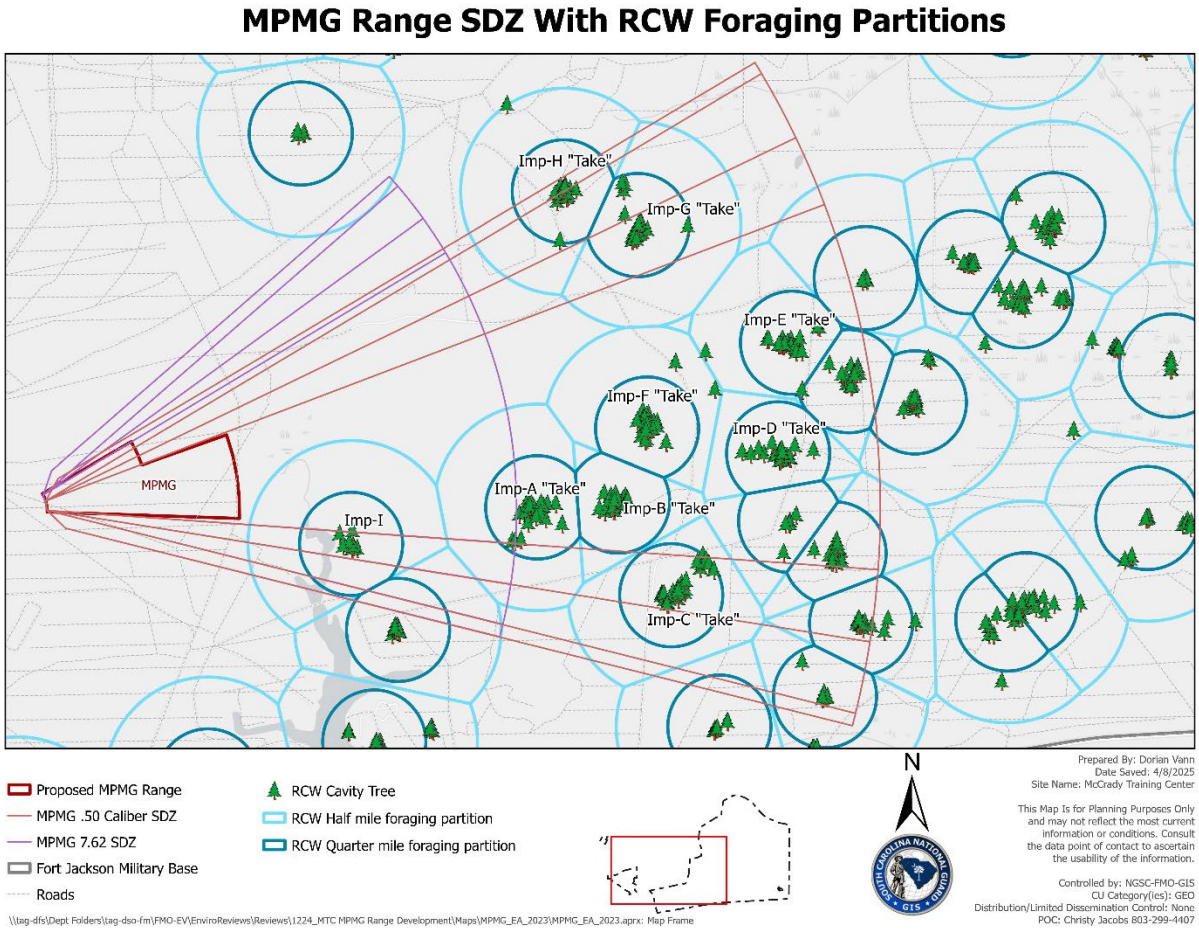

Figure 19: RCW Clusters with Foraging Partition Buffers (FWS Log No. 2013-F-0207)

Nesting habitat will not be affected by this project, the RCW trees for Cluster Imp-I are outside of the area of affect and will not be visible from the firing points according to modeling (Figure 18). Birds may be disturbed, injured, or killed by weapons firing if they are foraging in the 'Beaten Area', but we predict the probability to be insignificant.

Cluster IMP-I may lose a portion of its foraging habitat but will continue to meet MSS and is expected to persist after range construction and operation. There may be additional harassment or harm to foraging RCWs and to their habitat from munitions being fired into the Range Footprint, Beaten Area and the SDZ, but we predict these effects to be insignificant, therefore this project 'may affect and is not likely to adversely affect' the RCW.

As discussed in Section 3.8, the TCB has been proposed for listing as endangered in the Federal Register (FR Doc. 2022–18852 Filed 9–13–22). Much

of the available habitat found within the MPMG Range and Beaten Area overlaps with what is currently called Main Tank Range. This area is heavily disturbed, it has experienced repetitive live ammunition fire during military training since WWII. Primarily dominated by earlier successional scrub oak habitat, this would most likely serve as foraging habitat for TCBs. However, this may not be the most suitable foraging habitat due to a lack of consistent water resources in the area.

Effects of the action on TCBs: There are two actions to be analyzed. The first action is the construction of the range which includes surveying for and removing UXO, removing vegetation in the maximum construction limits of the range footprint of 208 acres, building structures, installing electricity (2.5 acres), and installing culverts for stormwater management. The second action is the operation of the range which includes firing of weapon systems.

Breeding and Roosting: TCBs roost on live and dead trees in a variety of forested habitats, so roosting habitat exists in the range footprint, the Beaten Area, and in the area covered by SDZs in the form of live and dead trees, and other vegetation (USFWS 2023). The first action, the construction of the MPMG range will include UXO clearing, which may include ground disturbance, wildland fire, noise, and visual stimuli. Effects to bats may include behavior modification or abandonment of roosting sites due to noise and visual stimuli. Detonation events would be brief and isolated, in most cases UXO is removed and taken to a demolitions pit (DOD, 2023). The construction of the range will also include clearing of vegetation from the range footprint, which will permanently prevent bats from using this area to breed, roost and possibly hibernate. The 208 acres to be removed represents only 0.41% of the entire potentially suitable acreage of Fort Jackson (51,313 acres), so we predict the effects to the local population will be minimal.

The north beaten area (323.69 acres) that is already impacted by existing range activity represents a baseline habitat. While this area might have vegetation hit from new angles, we anticipate minimal effects to any potential breeding and roosting habitat in this area. The newly impacted south beaten area (64.21 acres) will have trees hit by munitions which may lead to potential mortality of trees over time, which could possibly impact breeding and roosting. We suspect the SDZ area will have a slight chance of munitions damaging trees, but we predict this effect to be insignificant. There will be no increase in noise because the use of MPMG will shut down Main Tank range, both ranges use 0.50 caliber and cannot be active at the same time, due to overlap, but the area of noise impacts increases slightly, with the new range.

Foraging: During installation-level bat surveys conducted on McCrady Training Center in 1995-1997 and 2020-2022 by SCDNR, TCBs were predominantly found in bottomland-hardwood and riparian areas adjacent to water. In 2024, Fort Jackson retained Environmental Solutions & Innovations, Inc. (ESI) to conduct combined capture and acoustic surveys on Fort Jackson outside of MTC's licensed area, where TCBs were also detected and observed. We assume that all habitat types found within the maximum construction limits for the range footprint (208 acres) and the Beaten Area (387.91 additional acres) are suitable for TCB foraging. Construction of the range footprint, where vegetation will be permanently removed, may allow bats to continue to forage in the newly-created 'open habitat' of the footprint, therefore the effects to foraging will be minimal.

The north Beaten area (323.69 acres) is already impacted by existing ranges and new vegetation damage will be less than that in the south Beaten area (64.21 acres), but both areas will remain available for foraging even though trees

may be damaged or killed. The SDZ should remain available for foraging.

Bats have a low chance of being hit by munitions and/ or vehicles servicing the range since on average, most range use will occur after sunrise and before sunset so we predict this effect to be insignificant.

Based on USFWS guidance and the analysis, the CO determines the construction and operation of the MPMG 'may affect and is likely to adversely affect' the Tri-colored bat (Proposed endangered species) and 'may affect but is not likely to adversely affect' the RCW (Threatened species). Based on the December 2024 proposed rule to change the listing of the Monarch butterfly from 'Candidate' to 'Proposed Threatened', the environmental team sent a request to USFWS to confirm the determination for the species in the 2023 BA was sufficient. On April 16, 2025, USFWS informally responded that since the Monarch Butterfly is proposed and does not have the full protection of a listed species under the ESA, we do not need to consult, at this time. Additionally, they responded that they do not have any voluntary conservation measures that would be relevant to the project.

Under the No Action Alternative, no effects to biological resources would occur as the Proposed Action would not be implemented. Ongoing activities at the MTC would continue as under current conditions.

During construction, compliance with the conservation measures outlined in the BA, including limiting construction to daylight hours, eliminating construction lighting at night, and using smooth walled culvert pipes of 2 feet or less in diameter, would ensure effects to natural resources are minimized. Additional conservation measures are discussed in more detail in the BA (Appendix B).

The BA/CO also supports the use of 5 (five) proposed sites for supplemental bat roots to serve as habitat mitigation. These artificial habitats offer alternatives to the declining availability of natural roosting sites and contribute to the bats' ability to raise their young and carry out their summer activities. Additionally, they provide an opportunity to supply creative mitigation for potential losses of habitat such as those from construction (Appendix B).

4.7 Cultural Resources

As discussed in Section 3.8, The SCARNG has comprehensively surveyed the proposed MCLs/construction sites and the Proposed Action's Area of Potential Effect [APE] for cultural resources in accordance with Section 106 of the NHPA (36 CFR Part 800.4(a-b)). The SCARNG then applied the criteria of adverse effect, as stipulated in 36 CFR Part 800.5(a)(1), and determined that the Proposed Action would have no effect to historic properties, including historic architectural and archaeological sites.

South Carolina SHPO concurred, in writing, on 13 December 2011 and 12 December 2019, with the finding that no historic properties or archaeological resources listed on or eligible for listing on the NRHP would be affected by the Proposed Action. In addition, 13 federally recognized tribes were consulted in 2011 and again in 2019. Responding tribes did not identify any concerns regarding the Proposed Action, unless an inadvertent discovery of cultural materials is made during construction. As such, no effects to cultural resources would be anticipated.

The Preferred Action Alternative would not significantly contribute to a regional decline in cultural resources.

Under the No Action Alternative, no effects to cultural resources would occur as

the Proposed Action would not be implemented. Ongoing activities at the MTC would continue as under current conditions.

For cultural resources, no projection specific mitigation measures to reduce adverse impacts to below significant levels would be necessary.

4.8 Socioeconomics

The US Census data was reviewed to establish a demographic profile and proposed population growth of the area. As of July 1, 2022, the population of Richland County was estimated to be 421,566, which established the county as the second most populous in the state, behind only Greenville County. Richland County experienced a growth rate of over 1.3 percent between April 1, 2020 and July 1, 2022 and this population growth is projected to continue.

No adverse effects to socioeconomic resources would occur due to the Proposed Action.

No additional demands on local emergency services would be anticipated. As previously noted, the Proposed Action would result in additional local construction jobs and provide minor incidental spending in the local community. This would be expected to provide some additional opportunities and increases in local employment and personal income which could have a temporary positive impact on the local economy.

The No Action Alternative would have a negligible impact on socioeconomics. The proposed project would temporarily improve economic opportunities for local employment and existing businesses.

For socioeconomics, no projection specific mitigation measures to reduce adverse impacts to below significant levels would be necessary.

4.9 Infrastructure

No significant infrastructure effects are anticipated with the implementation of the preferred action alternative. As defined in the ARNG NEPA Manual (2011), a significant infrastructure effect could occur if existing infrastructure is inadequate or does not have sufficient capacity to support the Proposed Action. Based on the below analysis and the data presented in Section 3.10, the Preferred Action Alternative would not result in significant adverse effects to infrastructure.

Traffic and Transportation: Under the Preferred Action Alternative, no significant adverse traffic or transportation effects are anticipated. There would be a short-term increase in construction-related traffic, which would be readily absorbed by existing on- and off-Post roads.

Over the long-term, the Preferred Action Alternative would not significantly increase the number of Soldiers traveling to or within the MTC, and would decrease the need to transport Soldiers up to eight hours round-trip between the MTC and available small arms training sites at Fort Bragg, Fort Gordon, or Fort Stewart. The MTC is readily accessible from I-77 via Leesburg Road, which currently has very light traffic. In addition, the Proposed Action would not include the construction of new public roadways or the alteration of existing public traffic patterns. As such, no adverse effects to traffic or transportation are anticipated, as the existing infrastructure has sufficient capacity to support the Proposed Action.

Utilities - Water Supply: The Proposed Action would not be connected to the

public water supply system and would have no effect on this infrastructure.

Utilities – Wastewater: The Proposed Action would not be connected to the public wastewater system and would have no effect on this infrastructure.

Utilities – Electrical: All electrical will connect to the existing Fort Jackson primary electrical line on Wildcat Road via installation of a new overhead utility line and right-of-way and will run onto the ROCA portion of the range for the support facilities and downrange to support the ATS operation. According to Dominion Energy, the existing infrastructure is sufficient to handle the capacity of the proposed MPMG Range. Any electrical upgrades required will be completed in coordination with Fort Jackson and Dominion Energy. Electrical utilities would be installed along existing and proposed new access roads, and would not include any additional land area or ground disturbance. The current design will have 13 power poles and the right-of-way will be a length of 3,563 feet (Section 2.2 - Figure 7).

The No Action Alternative would have a negligible impact on infrastructure. Existing infrastructure will continue to be used and ongoing activities at the MTC would continue as under current conditions.

For infrastructure, no projection specific mitigation measures to reduce adverse impacts to below significant levels would be necessary.

4.10 Hazardous and Toxic Materials and Wastes

As defined in the ARNG NEPA Manual (2011), a significant HTMW effect could occur if a Proposed Action would result in a substantial increase in the generation of hazardous substances, increase the exposure of persons to hazardous or toxic substances, increase the presence of hazardous or toxic materials in the environment, or place substantial restrictions on property use due to hazardous waste, materials, or site remediation. Based on the below analysis and the data presented in Section 3.11, the Preferred Action Alternative would not result in significant adverse HTMW effects.

Routine Construction/Operation HTMW Concerns: The Preferred Action Alternative would result minor effects due to the increased presence and use of HTMW during both construction and operation of the proposed range facilities, including the handling, storage, use, transportation, and disposal of HTMW. During construction and operation, an increase in vehicle traffic would increase the likelihood for release of vehicle operating fluids (e.g., oil, diesel, gasoline, antifreeze, etc.) and maintenance materials. Hazardous materials and debris generated by the construction and operation of the Proposed Action would be handled, stored, and disposed of in accordance with Federal, State, and local regulations and laws. Permits for handling and disposal of HTMW would be coordinated by construction and operations personnel with the SCARNG Compliance Manager.

The SCARNG operates under existing requirements and BMPs to minimize spills and leaks from their equipment, and would implement their current HMWMP (SCARNG 2016) and SPCCP (SCARNG 2018) for the MTC to minimize this potential. In accordance with applicable regulations, the SCARNG routinely updates site-specific HTMW pollution prevention, management, response, and contingency plans, as required, following a significant change at a facility that materially affects the accuracy of the existing plan. The SCARNG would update applicable plans for the Proposed Action at the MTC under the Preferred Action Alternative.

Further, the SCARNG would implement BMPs in accordance with the HMWMP

to further reduce these HTMW effects. These BMPs include ensuring onsite vehicles are properly serviced and not leaking, prohibiting vehicle maintenance, and re-fueling activities on the sites, and ensuring all debris is collected and disposed of properly.

The East Impact Area contains UXO. UXO clearance would take place in the maximum construction limits and would use ground penetrating radar and metal detecting to identify UXO. Any inert UXO would be removed and moved off-site and if, by chance, any live UXO was encountered it would be blown in place. UXO clearance is done by the Department of Army and not contracted by SCARNG. Detonation events would be brief and isolated, in most cases UXO is removed and taken to a demolitions pit (DOD, 2023). The UXO clearance would fully comply with all applicable Fort Jackson and DA UXO clearance procedures. The UXO clearance would ensure construction worker and Soldier safety, and would minimize any HTMW-related concerns.

Metals from spent small arms ammunition, including lead, antimony, copper, and zinc, may accumulate in shallow. Ammunition fired from the proposed ranges has the potential to introduce these metals into the proposed, SDZ. While the addition of the MPMG will likely result in the introduction of lead and other metals into the environment, the proposed SDZ coincides with an existing duded impact area; lead and other metals are already present in this area. To further manage this concern, the SCARNG would implement the measures set forth in Prevention of Lead Migration and Erosion from Small Arms Ranges (USAEC 1998) and the Army Small Arms Training Range Environmental BMPs Manual (USAEC 2005). These manuals identify range design measures and maintenance procedures that minimize the potential effects from lead (and other metal) migration and erosion from Army ranges.

SCDHEC responded on November 13, 2023 noting that the location of the proposed MPMG range is near some of the Solid Waste Management Units (SWMUs) on site. The closest SWMU is approximately 1.9 miles from the proposed MPMG footprint. Based on the distance, construction, and operation of the proposed MPMG Range is unlikely to impact the existing SWMUs.

Under the No Action Alternative, no HTMW effects would occur as the Proposed Action would not be implemented. Ongoing activities at the MTC would continue as under current conditions. However, existing UXO within the proposed MPMG Range would not be remediated.

For HTMW, no projection specific mitigation measures to reduce adverse impacts to below significant levels would be necessary.

4.11 Best Management Practices and Mitigation Measures

Land improvement activities associated with the Proposed Action would include land clearing, grading, gravelling, paving, fencing, making general site improvements, and extending access roads and utilities to serve the proposed ranges.

The Proposed Action is located within the existing East Impact Area where weapons, bombs, explosive munitions, etc. have been and can be fired or detonated. Fort Jackson has had field artillery operations in this location since World War I. Due to the history of these activities, UXO are anticipated in the Proposed Action area. Prior to any ground-disturbance, former range footprints with the potential to contain UXO and coinciding with proposed construction areas would be investigated and remediated to an appropriate depth to ensure safety of construction personnel and future users. UXO clearance would take

place in the maximum construction limits and in the event UXO is discovered on the site, UXO clearance would be conducted using ground penetrating radar and metal detecting to identify UXO. Any inert UXO would be removed and moved off-site and if, by chance, any live UXO was encountered it would be blown in place. In the event UXO is discovered during the actual construction, the Army's explosive ordnance disposal detachment has the responsibility to safely remove or blow in place the UXO.

The NPDES permitting program requires a construction permit for range construction. Permits required for construction would include an NPDES Storm Water General Permit (Permit No. SCR100000) for Storm Water Discharges from Large or Small Construction Activities in South Carolina, including preparation, submission, review, and approval of a NOI and SWPPP (via SCDES) prior to initiation of construction. The NPDES permit would include identification and implementation of BMPs such as minimization measures to reduce dust on roads and minimize erosion from stormwater runoff in the construction area. Approval of a site-specific Erosion Control Management Plan may also be required by SCDES.

The SCARNG would avoid effects caused by the migration of metals from the proposed ranges and by soil erosion that could affect surface waters through sensitive design. This would also include complying with the BMPs and design elements described in the Army Small Arms Training Range Environmental Best Management Practices Manual (Fabian and Watts 2005) and Prevention of Lead Migration and Erosion from Small Arms Ranges (USAEC 1998).

In addition, the SCARNG would comply with the 2023 USFWS BA/CO as well as their current onsite and statewide BMPs to avoid adverse effects to natural and cultural resources during project construction and operation in accordance with their INRMP for the MTC (SCARNG 2023) and ICRMP (SCARNG 2021-2026). For example, any inadvertent discoveries of cultural resources during construction would be addressed per the ICRMP, including stopping work, reporting the discovery to the SCARNG Cultural Resources Manager, and consulting the SHPO, as appropriate. Construction and operational noise associated with the Proposed Action would comply with Fort Jackson's ONMP (USACHPPM 2007; USACHPPM 2009); all construction and operational activities would also comply with Fort Jackson Range Regulation 350-14, Regulation 350-1, and Regulation 200-8. Compliance with the 2023 BA/CO (Appendix B) along with these routine BMPs, management plans, and onsite regulations would ensure that potential biological, cultural, and other environmental effects are minimized.

Prior to the conduct of any Proposed Action component, the SCARNG would obtain all required Federal, State, and local permits and approvals necessary to comply with applicable laws, including coordination with interested agencies.

4.12 Reasonably Foreseeable Effects

As defined by DoD's NEPA Implementing Procedures, reasonably foreseeable effects are those which "result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, without regard to the agency (Federal or non-Federal) or individual who undertakes such other actions."

The analysis of reasonably foreseeable effects captures the effects that result from the Proposed Action in combination with the effects of other actions taken during the duration of the Proposed Action at the same time and place. Reasonably foreseeable effects may be accrued over time and/or in conjunction

with other pre-existing effects from other activities (40 CFR Part 1508.25). Therefore, pre-existing impacts and multiple smaller impacts should also be considered. Overall, assessing reasonably foreseeable effects involves defining the scope of the other actions and their interrelationship with the Proposed Action to determine if they overlap in space and time. Because of extensive influences of multiple forces, reasonably foreseeable effects are the most difficult to analyze.

The DoD's NEPA Implementing Procedures require the analysis of reasonably foreseeable environmental effects of a Proposed Action on resources that may often be manifested only at the cumulative level, such as traffic congestion, air quality, noise, biological resources, cultural resources, socioeconomic conditions, utility system capacities, and others. Reasonably foreseeable effects can result from individually minor, but collectively significant, actions taking place at the same time, over time. As noted above, reasonably foreseeable effects are most likely to arise when a Proposed Action is related to other actions that could occur in the same location and at a similar time.

Reasonably foreseeable effects analysis must determine if construction and operation of the SCARNG's proposed MPMG Range at the MTC, as assessed in this EA, have the possibility to result in either adverse or positive incremental impacts when considering other past, present, and future projects. The timeframe applied for this analysis covers the next 5 to 10 years, the most appropriate planning horizon for the Proposed Action and other activities reasonably foreseeable and planned. The scope of the overall impacts analysis, therefore, includes those activities associated with the Proposed Action and those identified that have occurred, are occurring, or are planned through approximately FY 2035.

Recent, past, and ongoing military activities were considered as part of the baseline, or existing conditions, and have been captured in Section 3. Fort Jackson, including the MTC, is an active military installation that experiences continuous evolution of mission and training requirements. Any new construction, facility improvements, and equipment or infrastructure upgrades are subject to the NEPA and must comply with land use controls, applicable regulations, and other applicable plans.

The reasonably foreseeable effects analysis considers how the effects of the SCARNG's (see Table 5) and Fort Jackson's (see US Army Training Center 2008 and below) proposed future activities might affect or be affected by those resulting from the Proposed Action, and whether such a relationship would result in potentially significant effects not identified when the Proposed Action is considered alone. No proposed off-Post (non-military) projects were identified during the preparation of this EA. Data concerning potential future activities at the MTC were provided by the SCARNG. NEPA analysis for each of these projects is being conducted separately.

Table 5: Potential Future Projects by the SCARNG at MTC

Proposed Future Project	Description
UTES Overhead Protection	Addition of a canopy to provide overhead protection to the existing UTES tank storage area.
ACFT Overhead Protection	Addition of a canopy to provide overhead protection to the existing ACFT.
MTC Water Treatment Facility Installation of Standby Generator	Addition of a Standby Generator to support the existing Water Treatment Facility within the cantonment area.
MTC Fire Department Installation of Standby Generator	Addition of a Standby Generator to support the existing Fire Department within the cantonment area.
MTC Construction of Barracks	Demolition of existing and construction of ten (1 per year), 50-person barracks in the MTC cantonment area.

Data concerning potential future activities at Fort Jackson were drawn from the current Fort Jackson Master Plan and associated PEA (US Army Training Center 2020). Proposed short-term and long-term development projects for Fort Jackson are addressed in the Fort Jackson Master Plan. These represent the scope of the known, defined development activities currently planned for Fort Jackson over the foreseeable future. NEPA analysis for each of these projects is being conducted separately.

The proposed projects outlined above and in the Fort Jackson Master Plan fall within the normal construction, maintenance, and operations of Fort Jackson and MTC. Most of the proposed projects pertain to improving and maintaining existing operations. No large-scale projects were identified that would result in degradation or strain on existing infrastructure or cultural and natural resources.

The Proposed Action would result in the effects identified throughout Section 4. Potential effects to Biological Resources would be reduced to less-than-significant levels through implementation of the conservation and mitigation measures identified in Section 4.6. Any minor effects identified would be further reduced through implementation of standard SCARNG BMPs. As shown in the below analysis, these adverse effects would not contribute to significant effects when considering all other past, present, and reasonably foreseeable future activities.

The thresholds for reasonably foreseeable effects are the same as for the direct and indirect effects analysis as described in Section 5.1.2. Please refer to that section for a discussion of the significance criteria developed and applied for this EA's analysis.

The following reasonably foreseeable effects analysis overlays the Proposed Action in time and space (i.e., over the next 5 to 10 years, which is the timeline for which proposed, reasonably foreseeable future actions are known) with past,

present, and reasonably foreseeable future projects, as described above. The analysis is presented by Technical Resource Area for clarity, thereby focusing on areas for which the combination of effects from the Proposed Action and from one or more other projects could potentially result in greater effects than in the case of each project separately. Through this analysis, the following effects would be reasonably expected, none of which are significant due to the Proposed Action's incremental contribution to the effect.

- Noise: Both the SCARNG and Fort Jackson conduct existing and proposed training activities in accordance with current, applicable, site-specific noise management plans (ONMP; USACHPPM 2015). Construction and training resulting from implementation of the Proposed Action would comply with these plans, ensuring significant adverse noise effects to off-Post receptors would not occur. Future implementation of other SCARNG-planned activities at the MTC and Army-planned activities at Fort Jackson would also comply with these plans. Through compliance with applicable noise management plans and Army requirements (e.g., AR 200-1), a cumulative adverse noise effect would not occur.
- Soils: Implementation of the Proposed Action would result in localized soil erosion effects during construction. Through the BMPs routinely implemented by the SCARNG, soil erosion and loss would be avoided by the Proposed Action and future Proposed Actions. Proposed facilities would be designed and constructed to ensure soils' limitations are properly considered and addressed, and significant long-term soil erosion would not occur. Prior to construction, the SCARNG would obtain all required permits, and would conduct work in accordance with the permit conditions. Consequently, the Proposed Action would not contribute to a significant adverse soils effect.
- Water Resources and Wetlands: With implementation of the BMPs and mitigation measures identified in this EA, significant adverse effects to water resources and wetlands would be avoided. During construction, compliance with the NPDES construction permit, including implementation of a project-specific SWPPP, would ensure sedimentation effects are avoided. With implementation of the measures described in this EA, the Proposed Action would result in minimal or no adverse effects to surface waters, groundwater, or wetlands. These same measures are routinely implemented with all the SCARNG's and Fort Jackson's Proposed Actions. Consequently, the Proposed Action would not contribute to significant adverse water resources effects.
- Biological Resources: The Proposed Action would result in short- and long-term changes to vegetation and wildlife communities on the MTC. Based on the 2023 USFWS CO determines the construction and operation of the MPMG 'may affect and is likely to adversely affect' the Tri-colored bat (Proposed endangered species) and 'may affect but is not likely to adversely affect' the RCW (Threatened species). Based on the December 2024 proposed rule to change the listing of the Monarch butterfly from 'Candidate' to 'Proposed Threatened', the environmental team sent a request to USFWS to confirm the determination for the species in the 2023 BA was sufficient. On April 16, 2025, USFWS informally responded that since the Monarch Butterfly is proposed and does not have the full protection of a listed species under the ESA, we do not need to consult, at this time. Additionally, they responded that

they do not have any voluntary conservation measures that would be relevant to the project. Through consultation and the 2023 USFWS CO, SCARNG committed to reduce the significance of any effects to biological resources by implementing the conservation measures and habitat mitigation outlined in the 2023 BA and above in Section 4.6. Future proposed activities would also comply with these plans and Section 7 of the ESA, ensuring adverse effects are minimized. As such, the Proposed Action would not contribute to a significant adverse effect to biological resources.

- Infrastructure: The Proposed Action would likely result in a negligible effect to traffic and transportation infrastructure. The Preferred Action Alternative would not result in significant adverse effects to infrastructure. Implementation of the Fort Jackson Master Plan would improve potable water supply to the Fort Jackson training ranges, as well as upgrade the installation's electrical infrastructure to support existing facilities and future growth. These proposed projects would result in a positive effect to utilities.
- HTMW: The Proposed Action would result in potential HTMW effects during both construction and operation. These effects would be maintained at acceptable levels or avoided through routine BMPs as specified in this EA. Over the long-term, the Proposed Action would result in the remediation of UXO from the proposed range footprint. Through implementation of the BMPs specified in this EA, including proper long-term range management, HTMW effects would be minimized. Other proposed SCARNG and Fort Jackson actions would comply with applicable, existing, or updated HTMW management plans to ensure the proper management of HTMW associated with all installation activities. As such, the Proposed Action would not contribute to a significant adverse HTMW effect.

Under the No Action Alternative, the SCARNG would not implement the Proposed Action and no changes to existing training or levels of environmental effects would occur. Involved units of the SCARNG would continue to travel to Fort Bragg, Fort Gordon, or Fort Stewart to attain required weapons training and qualification requirements. This travel would continue to contribute vehicular air emissions and traffic to the affected region.

Under the No Action Alternative, the MTC would remain under the management of the SCARNG and would continue to be used for military purposes. Any future activities proposed by the SCARNG would likely result in similar environmental effects. The SCARNG would continue to comply with applicable environmental management plans, implement standard construction and operation BMPs, and comply with applicable local, State, and Federal environmental requirements. As such, no significant reasonably foreseeable effects would be anticipated.

SECTION 5: COMPARISON OF ALTERNATIVES AND CONCLUSIONS

This EA has evaluated the potential environmental, socioeconomic, and cultural effects of the SCARNG's proposal to establish the MPMG Range as detailed in Section 2. Four alternatives were evaluated: Preferred Alternative, Alternate Location on MTC, Other SCARNG-Controlled Property Alternative, and No Action Alternative.

The Preferred Action Alternative is the only option that meets all SCARNG's screening criteria, as well as achieves the purpose of and need for action.

This EA examines, in-depth, the following two alternatives: the Preferred Action Alternative and the No Action Alternative. Each of these two alternatives has been described throughout this document.

5.1 Comparison of the Environmental Consequences of the Alternatives

- All alternatives, except the No Action Alternative, meet the Purpose and Need to provide an adequate facility for SCARNG units to train on Crew-served weapons on MTC.
- While Alternative 2 (Alternate Location on MTC) meets the purpose and need of the project, this alternative would result in greater impacts to environmental resources while also requiring an increased amount of new ground disturbance.
- Alternative 2 would result in less conflicts with existing range operations but would not maximize use of the existing impact areas and as stated above would result in larger amounts of both impacts to environmental resources and new ground disturbance.
- Alternative 3 would result in greater impacts in all technical resource areas including the largest amount of new ground disturbance as the existing training site does not include enough land to accommodate the SDZ.

Based on evaluation of the alternatives it was determined that Alternative 1 provides the purpose and need of the project with minimal impacts to the human and natural environments. This alternative is explained in detail in Sections 2 and 3.

5.2 Conclusions

The evaluation performed within this EA concludes there would be no significant adverse impact, either individually or cumulatively, to the local environment or quality of life as a result of implementing the Proposed Action. The BMPs and mitigation measures specified in this EA would enable SCARNG to avoid or further minimize impacts on MTC and the surrounding area to the extent practicable. Therefore, this EA's analysis determines that an EIS is unnecessary to support the implementation of the Proposed Action, and that a FNSI is appropriate.

The Preferred Action Alternative was determined by SCARNG to provide the best combination of land and resources to sustain quality military training and to maintain and improve the units' readiness postures. The No Action Alternative would not fulfill the purpose of and need for the Proposed Action. It would limit

the capability of the SCARNG to carry out is assigned mission to provide adequate training facilities, and would jeopardize the proficiency and military readiness of the SCARNG and other military entities that require MPMG Range training. As such, this EA recommends implementation of the Preferred Action Alternative.

SECTION 6: REFERENCES

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SECTION 7: GLOSSARY

Ambient: The environment as it exists around people, plants, and structures.

Artillery Target Box: An existing area where artillery rounds can be fired.

Attainment Area: Region that meets the National Ambient Air Quality Standard (NAAQS) for a criteria pollutant under the CAA.

Beaten Area: The creation of the beaten zone is estimated based on several factors. The proposed location of the range project, the type and quantity of munitions planned to be fired (area between dispersion lines), the type of vegetation, and surrounding terrain are some of the factors.

The beaten area is part of the viewable area where impacts to vegetation may occur. The DoD Range Manger Tool-Kit (Automated SDZ Plotting) tools and 3-dimensional GIS capability are used to create more accurate beaten zone estimate. The beaten area includes both the viewable area and the not visible areas.

Best Management Practices (BMPs): Environmentally sensitive construction practices the MAARNG would implement in order to minimize or avoid potential adverse environmental impacts.

Contaminants: Any physical, chemical, biological, or radiological substances that have an adverse effect on air, water, or soil.

Criteria Pollutants: The CAA of 1970 required the USEPA to set air quality standards for common and widespread pollutants in order to protect human health and welfare. There are six "criteria pollutants": ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), lead (Pb), nitrogen dioxide (NO_2), and particulate matter.

Cultural Resources: Cultural resources are historic properties as defined by the NHPA, cultural items as defined by the Native American Graves Protection and Repatriation Act (NAGPRA), archaeological resources as defined by the Archaeological Resources Protection Act, sacred sites as defined by EO 13007 to which access is afforded under the American Indian Religious Freedom Act, and collections and associated records as defined by 36 CFR 79.

Reasonably foreseeable Effects: The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Impacts can result from individually minor but collectively significant actions taking place over a period (40 CFR 1508.7).

dBA: “A-weighted” non-impulse noise measurement in decibels, weighted to match human hearing frequency response.

Decibel (dB): A unit of measurement of sound pressure level.

Emission: A release of a pollutant.

Endangered Species: Any species which is in danger of extinction throughout all or a significant portion of its range.

Environmental Assessment (EA): An EA is a publication that provides sufficient evidence and analysis to show whether a proposed system will adversely affect the environment or be environmentally controversial.

Erosion: The wearing away of the land surface by detachment and movement of soil and rock fragments through the action of moving water and other geological agents.

Fauna: Animal life, especially the animal characteristics of a region, period, or special environment.

Floodplain: The relatively flat area or lowlands adjoining a river, stream, ocean, lake, or other body of water that is susceptible to being inundated by floodwaters.

FNSI: Finding of No Significant Impact, a NEPA document.

Frangible: Frangible bullets are intended to disintegrate into tiny particles upon target impact to minimize their penetration of other objects. Small particles are slowed more rapidly by air resistance, and are less likely to cause injury or damage to persons and objects distant from the point of bullet impact.

Geology: Science which deals with the physical history of the earth, the rocks of which it is composed, and physical changes in the earth.

Groundwater: Water found below the ground surface. Groundwater may be geologic in origin and as pristine as it was when it was entrapped by the surrounding rock or it may be subject to daily or seasonal effects depending on the local hydrologic cycle. Groundwater may be pumped from wells and used for drinking water, irrigation, and other purposes. It is recharged by precipitation or irrigation water soaking into the ground. Thus, any contaminant in precipitation or irrigation water may be carried into groundwater

Hazardous Substance: Hazardous materials are defined within several laws and regulations to have certain meanings. For this document, a hazardous material is any one of the following:

Any substance designated pursuant to section 311 (b)(2) (A) of the Clean Water Act.

Any element, compound, mixture, solution, or substance designated pursuant to Section 102 of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

Any hazardous as defined under the Resource Conservation and Recovery Act (RCRA).

Any toxic pollutant listed under TSCA.

Any hazardous air pollutant listed under Section 112 of CAA.

Any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has acted pursuant to Subsection 7 of TSCA.

The term does not include: 1) Petroleum, including crude oil or any thereof, which is not otherwise specifically listed or designated as a hazardous substance in a above. 2) Natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). c. A list of hazardous substances is found in 40 CFR 302.4.

Hazardous Waste: A solid waste, which when improperly treated, stored, transported, or disposed of poses a substantial hazard to human health or the environment. Hazardous wastes are identified in 40 CFR 261.3 or applicable foreign law, rule, or regulation (see also solid waste).

Impact Area: Existing area where weapons, bombs, etc. have been and can be fired or detonated.

Line of Site: Linear visibility from point A to point B. LOS determines obstructed vs unobstructed on a straight line.

Listed Species: Any plant or animal designated as a State or Federal threatened, endangered, special concern, or candidate species.

Mitigation: Project-specific requirements not routinely implemented by the MAARNG necessary to reduce identified potentially significant adverse impacts to less- than-significant levels.

Monitoring: A process of inspecting and recording the progress of mitigation measures implemented.

National Ambient Air Quality Standards: Those standards established according to the Clean Air Act (CAA) to protect health and welfare (AR 200-1).

National Environmental Policy Act (NEPA): U.S. statute that requires all Federal agencies to consider the potential effects of Proposed Actions on the human and natural environment.

Nonattainment Area: An area that has been designated by the EPA or the appropriate State air quality agency as exceeding one or more national or State ambient air quality standards.

Particulates or Particulate Matter: Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog found in air.

Pollutant: A substance introduced into the environment that adversely affects the usefulness of a resource.

SDZ: A designated area, both on ground and in the airspace above, that is restricted during military training and live firing exercises to ensure safety. It defines the boundaries within which projectiles, fragments, or components from fired, launched, or detonated weapons and explosives are contained.

Sensitive Receptors: Include, but are not limited to, asthmatics, children, and the elderly, as well as specific facilities, such as long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, and childcare centers.

Significant Impact: According to 40CFR 1508.27, “significance” as used in NEPA requires consideration of both context and intensity. The significance of an action must be analyzed in several contexts such as society (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the Proposed Action.

Soil: The mixture of altered mineral and organic material at the earth’s surface that supports plant life.

Solid Waste: Any discarded material that is not excluded by section 261.4(a) or that is not excluded by variance granted under sections 260.30 and 260.3.1

Special Concern: Any plant or animal species which has been documented as suffering a decline that can cause an adverse response.

State-listed: Species that are listed by the South Carolina Department of Natural Resources as being either threatened, endangered, or of special concern, and protected.

Threatened species: Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Topography: The relief features or surface configuration of an area.

Toxic Material/Waste: A harmful substance that includes elements, compounds, mixtures, and materials of complex composition.

Viewable Area: The viewable area are the visible areas of the viewshed.

Viewshed: Viewshed is the area that includes what is visible and not visible. The viewshed analysis is used to determine viewable area. All analysis was based on the elevation of bare earth using the DoD Range Toolkit. Based on terrain, you can see the tops of the hills but not the bottom.

Watershed: The region draining into a particular stream, river, or entire river system.

Wetlands: Areas that are regularly saturated by surface or groundwater and, thus, are characterized by a prevalence of vegetation that is adapted for life in saturated soil conditions.

Wildlife Habitat: Set of living communities in which a wildlife population lives.

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