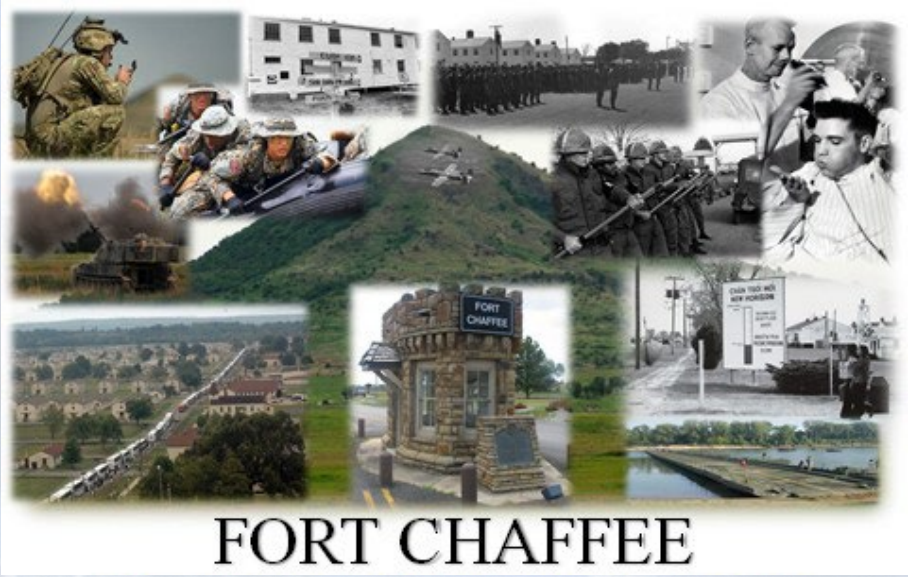
Draft
Environmental Assessment

for

Facilities Master Plan Projects at Transportation Safeguards Training Site

Fort Chaffee, Arkansas

March 2019



Prepared for:
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National Nuclear Security Administration (NNSA)

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ACRONYMS

Acronym	Definition
ABB	American burying beetle
ADEQ	Arkansas Department of Environmental Quality
ADNL	A-weighted day-night average sound level
AHPP	Arkansas Historic Preservation Program
ARARNG	Arkansas Army National Guard
ARNG	Army National Guard
BMP	best management practice
CAA	Clean Air Act
CDNL	C-weighted day-night average sound level
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CQC	Close Quarters Combat
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
dBC	C-weighted decibels
dBP	peak decibel
DoD	Department of Defense
DOE	U.S. Department of Energy
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FY	Fiscal Year
HU	hydrologic unit

Acronym	Definition
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
L_{dn}	day-night average sound level
$L_{eq(24)}$	Equivalent sound level over 24 hours
LSS	Logistics Support Site
MCOC	Munitions Constituents of Concern
MOE	Method of Entry
NAGPRA	Native American Graves and Protection and Repatriation Act
NEPA	National Environmental Policy Act
NGB	National Guard Bureau
NHPA	National Historic Preservation Act
NNSA	National Nuclear Security Administration
NOAA	National Oceanic and Atmospheric Administration
OST	Office of Secure Transportation
PK 15(met)	Single event peak level exceeded by 15 percent of events
POL	petroleum, oil, and lubricant
PT/IUF	Physical Training / Intermediate Use of Force
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
ROI	Region of Influence
SPCC	Spill Prevention, Control, and Countermeasure
SRF	Special Response Force
SWPPP	Stormwater Pollution Prevention Plan
TRACOM	Training Command
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WWII	World War II

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CHAPTER 1 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

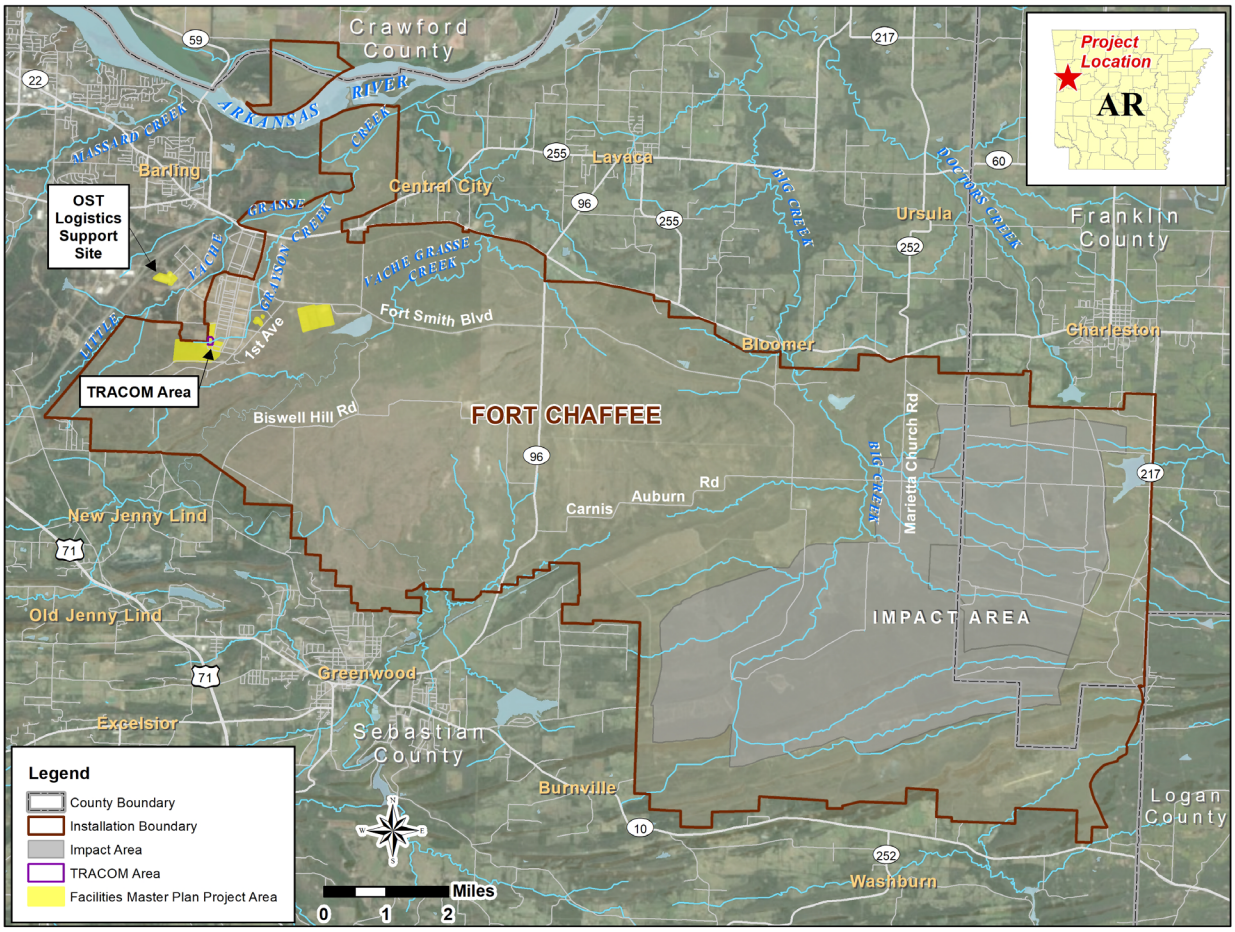
The United States (U.S.) Department of Energy (DOE), National Nuclear Security Administration (NNSA) Office of Secure Transportation (OST) has prepared this Draft Environmental Assessment (EA) to evaluate the potential environmental impacts of implementing the Facilities Master Plan projects at the Transportation Safeguards Training Site at Fort Chaffee, Arkansas. OST completed a Facilities Master Plan in 2017 outlining facility consolidation and modernization projects planned for the next 5 years within the Transportation Safeguards Training Site. NNSA OST as the proponent and the Arkansas Army National Guard (ARARNG) as the land operator must comply with the National Environmental Policy Act (NEPA) of 1969 through preparation of this EA for this potential future construction.

The OST is an organization within DOE's NNSA whose mission is to provide safe and secure ground and air transportation of nuclear weapons, nuclear weapon components, special nuclear materials, and other missions supporting the national security of the United States. OST is assigned responsibility for the construction, modernization, and maintenance of facilities that support the mission of OST.

The OST Training Command (TRACOM) is based out of the ARARNG site in Fort Chaffee, Arkansas. The OST TRACOM campus contains billets for OST agents-in-training; Federal training, support, facility, and project management staff; and various support contractor personnel that are dispersed throughout several administration, classroom, armory, and maintenance buildings. The OST Logistics Support Site (LSS) is an additional site located outside Fort Chaffee which contains a vehicle maintenance facility, administrative offices, a 40,000-square-foot warehouse for logistics storage, and a back lot for driver training. The OST TRACOM campus at Fort Chaffee and the nearby LSS are collectively known as the Transportation Safeguards Training Site (see Figure 1-1).

Since 1999, the OST training mission at the Transportation Safeguards Training Site has been designed to develop and maintain the knowledge, skills, and abilities needed to ensure effective performance of the tasks necessary to accomplish the mission. In addition to introductory agent training for new recruits, Federal Agents must continue to meet periodic qualification requirements relative to firearms, physical fitness, and driving proficiency.

This chapter presents the purpose of and need for the Proposed Action; defines the scope of the environmental analysis and issues to be considered; identifies decisions to be made; and describes the agency and stakeholder review process.



Acronyms: OST = Office of Secure Transport; TRACOM = Training Command

Figure 1-1. Project Location Map

1.1.1 Location Description

Fort Chaffee Joint Maneuver Training Center, herein referred to as "Fort Chaffee", is a 64,272-acre ARARNG installation located southeast of Fort Smith, Arkansas near the Oklahoma border. The Fort Chaffee ARARNG is the operator of the Federal lands at Fort Chaffee. The northern portion of the installation borders the Arkansas River with a small portion of the property crossing to the north side of the Arkansas River. Located within 5 miles of Fort Smith Regional Airport, Fort Chaffee (and the Transportation Safeguards Training Site) is approximately 10 miles south of Interstate 40 and 5 miles east of Interstate 49. A network of highways surround the post, including Highways 255, 22, 217, 71, and 10. Tributaries within Fort Chaffee connect to the Arkansas River which is approximately 3 miles from the closest Facilities Master Plan project, located at the LSS area.

The Transportation Safeguards Training Site is composed of areas of land both within and nearby to Fort Chaffee. Areas include the TRACOM campus, the "Limited Area," several ARARNG-operated properties within Fort Chaffee, and the LSS area. The LSS area is located approximately 1.5 miles northwest of the Limited Area and is no longer part of Fort Chaffee. In addition to these areas, OST is currently requesting land from Fort Chaffee through lease agreements (see Section 3.6, Cumulative Effects, for more information).

1.2 PURPOSE AND NEED

The purpose of the Proposed Action is to implement the 2017 Facilities Master Plan, herein referred to as the "Facilities Master Plan". The Facilities Master Plan provides vision, direction, and a defined achievable future for OST's footprint at the Transportation Safeguards Training Site by establishing specific goals and strategies for land use. The Facilities Master Plan calculates existing and future facility requirements, identifies facility shortfalls, and identifies future development options and projects at the Transportation Safeguards Training Site.

Increased mission requirements coupled with aging infrastructure necessitated NNSA to pursue a detailed strategic plan. The need for the Proposed Action is to support the training requirements of OST and to address facility shortfalls at the Transportation Safeguards Training Site through consolidation and modernization of facilities.

1.3 SCOPE OF THE EA

This EA analyzes the effects of construction and operation of Facilities Master Plan projects at the Transportation Safeguards Training Site at Fort Chaffee. Of the 14 future projects listed in the Facilities Master Plan, 2 projects (the running track and LSS warehouse offices) have been funded and the NEPA documentation completed. The Proposed Action evaluates the remaining 12 projects contained within the Facilities Master Plan (refer to Section 2.2.1 for descriptions of these projects). This EA also considers a No Action Alternative, where construction and operations of the proposed projects would not occur.

The resource areas evaluated include biological resources, noise, soils, water resources, and cumulative effects. This EA considers direct, indirect, and cumulative effects of the Proposed Action and alternatives, including the No Action Alternative. It was prepared in accordance with the NEPA of 1969 (42 United States Code [USC] 4321 *et seq*.), Council on Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] 1500-1508), DOE's implementing procedures (10 CFR 1021), 32 CFR 651, *Environmental Analysis of Army Actions*, and the Army National Guard (ARNG) NEPA Handbook. A specific requirement for this EA is an appraisal of effects of the proposed construction and operation of these Facilities Master Plan projects, including a determination of whether or not a Finding of No Significant Impact (FONSI) is appropriate or whether a Notice of Intent to prepare an Environmental Impact Statement (EIS) is required. The ARNG is involved in preparation of this EA as a cooperating agency and will use it to consider potential impacts and potentially prepare a FONSI, if appropriate.

The decision to be made is whether to implement the Proposed Action, modify the Proposed Action, or select an alternative action, including the No Action Alternative. NNSA will make the decision based on findings within this EA. Since elements of the Proposed Action would occur on Fort Chaffee, the ARNG will use this EA to support their decision.

1.4 DECISION-MAKING

The NEPA process is intended to provide NNSA and ARNG decision-makers with a meaningful review of environmental considerations associated with a given action. The analysis set forth in this EA allows the decision-makers to carefully balance the protection of these environmental resources while fulfilling the essential roles of NNSA and the ARNG. Both environmental staff and military personnel within NNSA and ARNG were consulted and provided guidance on the development of this EA.

1.4.1 NNSA

Per DOE's implementing procedures for compliance with NEPA (10 CFR 1021 Subpart B *Decision Making*), NNSA shall consider all alternatives, relevant NEPA documents, and stakeholder and agency comments, as well as conduct consultation efforts, as required, to minimize environmental effects.

1.4.2 Fort Chaffee ARARNG

Per amendments to 10 USC §10501, described in Department of Defense (DoD) Directive 5105.77, the National Guard Bureau (NGB) is a joint activity of the DoD. NGB serves as a channel of communication and funding between the U.S. Army and State ARNG organizations in the 50 U.S. states, territories, and the District of Columbia. The ARNG is a Directorate within NGB. The ARNG's Installation and Environment Directorate is the division within the ARNG that is responsible for environmental matters, including compliance with NEPA. As the ARNG is a Federal cooperating agency and decision-maker concerning this Proposed Action, this is a Federal Proposed Action. The ARNG will consider the findings in the EA, and if appropriate, prepare a separate FONSI.

1.5 STAKEHOLDER INVOLVEMENT

NNSA invites participation by all interested parties in the NEPA process. Consideration of the views of and information provided by all interested persons and stakeholders promotes open communication and enables better decision-making. For an EA, this includes agencies, organizations, and members of the public with a potential interest in the Proposed Action, including Native American tribes and minority, low-income, and disadvantaged populations, are encouraged to participate. A record of agency coordination and tribal consultation associated with this EA is provided in Appendix A. Refer to Chapter 7 for a complete list of agencies and individuals consulted in preparation of this EA.

1.5.1 Stakeholder Review

NNSA is soliciting comments from interested persons and stakeholders on the Draft EA during a 30-day comment period. NNSA provided the Draft EA to relevant agencies and Native American tribes for review and comment. NNSA published a Notice of Availability in the *Fort Smith Times Record* newspaper regarding the availability of the Draft EA and Floodplains Assessment. The Draft EA is available electronically on the DOE website at https://www.energy.gov/nepa/doe-environmental-assessments. Comments received during the 30-day comment period will be considered in preparation of the Final EA and will be made part of the Administrative Record.

1.5.2 Agency Coordination

NNSA coordinated with the ARNG and the Arkansas State Clearing House, Office of Intergovernmental Services for review of this Draft EA. Copies of agency correspondence are included in Appendix A of this EA. Due to the location of the proposed projects, consultation with State Historic Preservation Officer was not required. The discussion of Cultural Resources in Table 3.1-1 describes the evaluation of cultural sites at or near the proposed project locations.

1.5.3 Tribal Consultation and Coordination

NNSA is consulting and coordinating with Federally Recognized Native American tribes as required under NEPA, the National Historic Preservation Act (NHPA), and the Native American Graves and Protection and Repatriation Act (NAGPRA). This coordination also supports the ARNG requirements under the DoD Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, which implements the Annotated DoD American Indian and Alaska Native Policy (dated 27 October 1999), and Army Regulation 200-1, *Environmental Protection and Enhancement* (2007). Tribes were invited to review this Draft EA and were invited to participate in the NHPA Section 106 process as Sovereign Nations per Executive Order (EO) 13175, *Consultation and Coordination with Indian Tribal Governments* (2000).

Based on Fort Chaffee's Integrated Cultural Resources Management Plan (ICRMP), consultation, personal correspondence, and research by the ARARNG Cultural Resources Manager, 18 tribes were identified as having possible ancestral ties to the Fort Chaffee area (refer to Appendix A for a list of tribes).

Correspondence was initiated via electronic mail and certified mail, and letters sent to these tribes and any responses received are included in Appendix A.

1.6 RELATED NEPA, ENVIRONMENTAL, AND OTHER DOCUMENTS AND PROCESSES

There are several Fort Chaffee documents related to this EA. The *2017 Facilities Master Plan, Office of Secure Transportation Training Command, Fort Chaffee, Arkansas* (USDOE 2018), *Integrated Natural Resources Management Plan 2014-2018, Fort Chaffee Joint Maneuver Training Center, Fort Chaffee, Arkansas* (FCJMTC 2014), and the *2016 – 2020 Update Integrated Cultural Resources Management Plan for Sites and Training Installations of the Arkansas Army National Guard* (Military Department of Arkansas 2016) were used in the preparation of this EA, and requirements of these documents apply to the Proposed Action.

1.7 REGULATORY FRAMEWORK

1.7.1 National Environmental Policy Act

NNSA prepared this EA in accordance with NEPA, as amended (42 USC 4321), the President's CEQ regulations for implementing NEPA (40 CFR 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021). This statute and the implementing regulations require that DOE, as a Federal agency:

- assess the environmental impacts of its proposed action;
- identify any adverse environmental effects that cannot be avoided, should the proposed action be implemented;
- evaluate alternatives to the proposed action, including a no action alternative; and
- describe the cumulative impacts of the proposed action together with other past, present, and reasonably foreseeable future actions.

These provisions must be addressed before a final decision is made to proceed with any proposed Federal action that has the potential to cause impacts to the natural or human environment, including providing Federal funding to a project. This EA is intended to meet DOE's regulatory requirements under NEPA and provide NNSA with the information needed to make an informed decision about whether to approve funding and construction of the Proposed Action. In accordance with the above regulations, this EA allows for stakeholder input into the Federal decision-making process; provides Federal decision-makers with an understanding of potential environmental effects of their decisions before making these decisions; and documents the NEPA process.

As elements of the Proposed Action would occur on Fort Chaffee, NNSA also prepared this EA in accordance with 32 CFR 651 (*Environmental Analysis of Army Actions, Federal Register Vol. 67, No. 61, March 29, 2002*), and the *2011 ARNG NEPA Handbook, Guidance on Preparing Environmental Documentation for Army National Guard Actions in Compliance with the National Environmental Policy Act of 1969* (ARNG 2011).

1.7.2 Laws and Executive Orders

The EA also addresses other applicable laws and regulations, including but not limited to the following:

- National Historic Preservation Act (NHPA);
- Archeological Resources Protection Act;
- Clean Air Act (CAA);
- Clean Water Act (CWA);
- Protection of Wetlands (EO 11990);
- Floodplain Management (EO 11988);
- Endangered Species Act (ESA);
- The Noise Control Act of 1972, as amended;
- Environmental Justice (EO 12898);
- Pollution Prevention Act;
- Resource Conservation and Recovery Act (RCRA); and
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

CHAPTER 2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.0 INTRODUCTION

This chapter describes the Proposed Action and No Action Alternatives analyzed in this EA, as well as those alternatives dismissed from further consideration. As described in Chapter 1, CEQ's regulations direct all Federal agencies to use the NEPA process to identify and assess the reasonable alternatives to proposed actions that would avoid or minimize adverse effects of these actions upon the quality of the human and natural environment (40 CFR 1500.2[e]).

2.1 ALTERNATIVES DEVELOPMENT (SCREENING CRITERIA)

The master planning process led to the identification of projects contained within the Facilities Master Plan which are carried forth for analysis within this EA. The process involved data collection to establish baseline existing conditions for understanding mission requirements, and the identification of projects and site alternatives for proposed projects. The charrette planning process reviewed and evaluated the merits of each alternative and included internal stakeholder consensus in the identification of projects presented in the Facilities Master Plan.

2.2 PROPOSED ACTION

NNSA proposes to implement the Facilities Master Plan at the Transportation Safeguards Training Site. The Proposed Action would involve construction and operation of the Facilities Master Plan projects. Of the 14 future projects listed in the Facilities Master Plan, 2 projects (the running track and LSS warehouse offices) have been funded and the NEPA documentation completed. As a result, the Proposed Action consists of the remaining 12 projects contained within the Facilities Master Plan (USDOE 2018). Section 2.2.1 describes each project.

2.2.1 Description of OST Projects

This section describes the Facilities Master Plan projects evaluated under the Proposed Action. Table 2-1 lists the projects and Figure 2-1 presents the location of each project.

Table 2-1. 2017 Facilities Master Plan Projects

Project Number	Fiscal Year[a]	Project	Construction Area (acres)	Operational Area (acres)	New Utilities	Distance of Utility Required for Connection Outside of Facility Footprint
1[b]	2019	All-Weather Running Track	N/A	N/A	N/A	N/A
2[b]	2019	Add Offices to LSS Warehouse	N/A	N/A	N/A	N/A
3	2019	Live-Fire Shoot House	2.0	2.0	Electrical (underground)	All within project footprint
4	2020	Range 13 Improvements	10.2	5.7	Electrical (overhead)	All within project footprint
5	2020	Physical Training / Intermediate Use of Force Expansion	0.5	<0.1	None	N/A
6	2020	Range 11 Classroom	1.1	<0.1	Electrical (underground)	All within project footprint

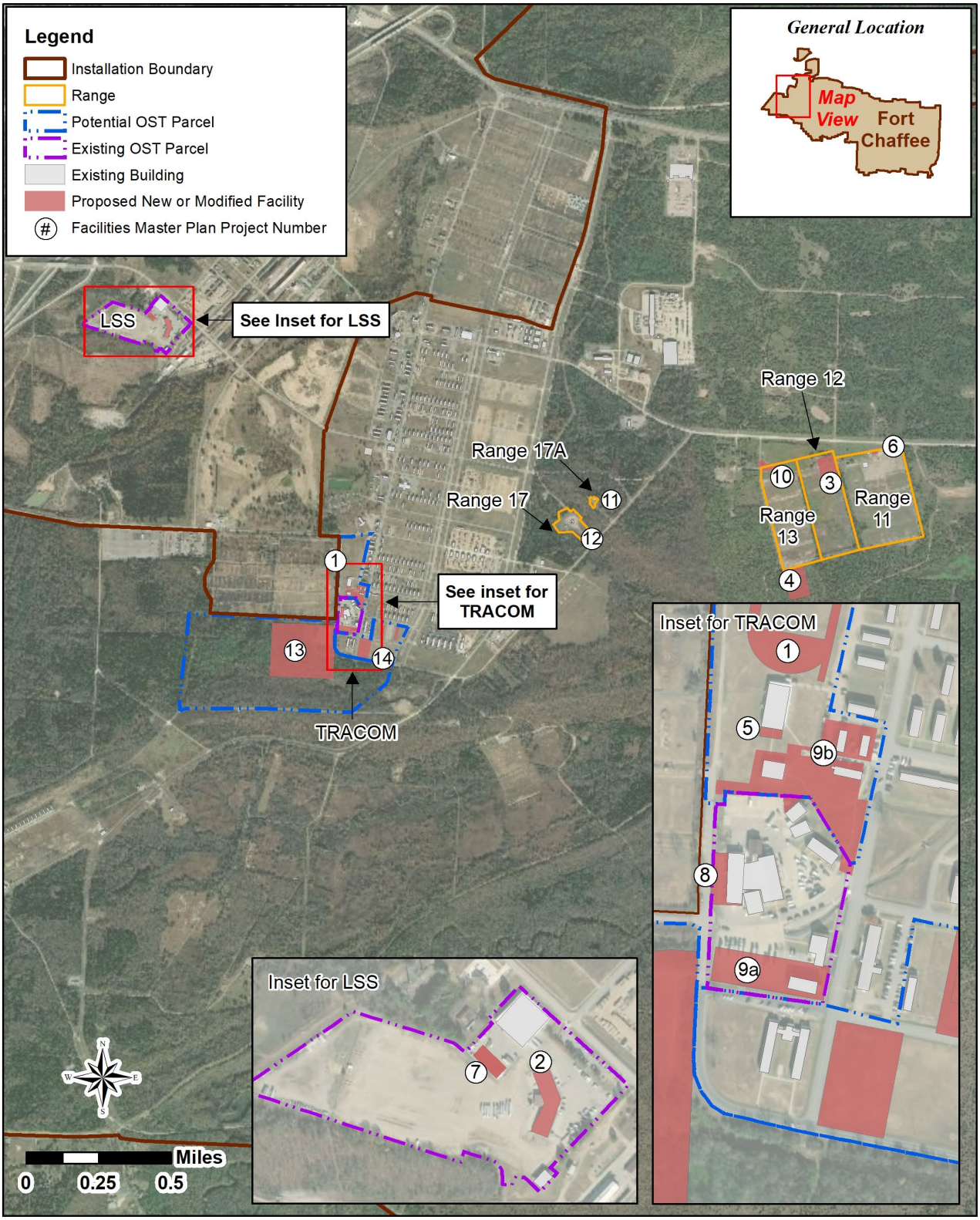
7	2021	Carpentry Shop Consolidation	0.6	0.3	Electrical (underground)	168 feet
					Water	41 feet
					Wastewater	17 feet
					Communications	98 feet
8	2021	Multi-Purpose Dye Marking Cartridge Facility	0.4	0.2	None	N/A
9a	2021	Multi-Use Administration and Classroom Building – South	4.8	2.6	Electrical (underground)	101 feet
					Water	32 feet
					Wastewater	18 feet
					Communications	29 feet
					Natural Gas	49 feet
9b	2021	Multi-Use Administration and Classroom Building – North	5.5	2.2	Electrical (underground)	Within project footprint
					Water	26 feet
					Wastewater	14 feet
					Communications	Within project footprint
					Natural Gas	Within project footprint
10	2021	Multi-Use Elevated Shooting Platform	1.1	0.1	None	N/A
11	2021	Range 17A Breaching Pad/Method of Entry House	0.4	<0.1	None	N/A
12	2021	Range 17 Upgrade	1.6	1.1	None	N/A
13	2022	Drive Track and Skid Pad	25.8	25.7	Electrical (overhead and underground)	232 feet
					Water	12 feet
					Wastewater	266 feet
					Communications	1,000 feet
					Access Road	0.1 acre
14	2022	OST Dormitory Replacement	2.2	0.5	Electrical (underground)	0.2 feet
					Water	Within project footprint
					Wastewater	165 feet
					Communications	Within project footprint
					Natural Gas	Within project footprint

Source: USDOE 2018

a. Final project construction timing is subject to change due to funding availability.

b. Project 1 (running track) and Project 2 (LSS warehouse offices) have been funded and the NEPA documentation completed, so they are not part of the Proposed Action.

LSS = Logistics Support Site; N/A = not applicable; OST = Office of Secure Transportation



Note: The number icons in the figure represent the Facilities Master Plan projects listed in Table 2-1.
Acronyms: LSS = Logistics Support Site; OST = Office of Secure Transport; TRACOM = Training Command

Figure 2-1. Facilities Master Plan Projects Location Map

2.2.1.1 Live-Fire Shoot House

The proposed Live-Fire Shoot House Project would occupy an approximately 2-acre area that would include an approximately 8,700-square-foot multi-story Close Quarters Combat (CQC) training facility and support buildings including a storage building, classroom building, and parking area. The CQC training facility would be capable of supporting unit-level exercises on Range 12 (see Project 3, Figure 2-1). It would support Special Response Force (SRF) Basic and Sustainment Training which is currently conducted off-site. Students and agents would conduct warm-up live-fire exercises on the static ranges prior to unit level exercises in the CQC facility. This facility would also have breaching capabilities, and a blast wall would be required for protection from the anticipated blast exercises.

The facility would include a 1,000-square-foot Range Storage Building for storage of consumable parts such as doors, windows, and targets. The facility would also include a 1,600-square-foot Range Support Building, providing an on-site classroom, break room area, and vaulted latrine to meet training operational needs, improve the efficiency for extended training activities, and alleviate the need to travel between the main TRACOM site and the live-fire range. OST instructors and students would be able to provide, attend, and complete training and have immediate and direct access to live-fire training applications and activities. Training could occur during the day or night, but the site would not include exterior lighting for nighttime training.

Construction is projected to start in Fiscal Year (FY) 2019, would last approximately 6 months, and would require approximately 10 to 20 construction employees. Construction activities would occur within an approximately 2-acre area that is currently grass-covered land (see Figure 2-2) and include clearing, excavation, compaction, utility tie-in, paving, and construction of structures. Construction of the buildings would permanently convert approximately 0.25 acre of the project site to impervious surface. Utility extensions and tie-ins would include underground electrical lines within the construction footprint. Refer to Table 2-1 for additional details about utility requirements.

2.2.1.2 Range 13 Improvements

The proposed Range 13 Improvements Project would extend the currently 600-yard range to 800 yards for 20 shooting positions (see Project 4, Figure 2-1). The project would greatly enhance the ability of OST to conduct Federal Agent Designated Marksman training at a single location for long-distance shooting and remove the need to travel off-site. The project would include improvements to existing firing line berms, addition of new firing lines, new target markers, a new impact berm consisting of dirt and concrete with a storage area and target system, and a new gravel access road.

Construction is projected to start in FY 2020, would last approximately 6 months, and would require approximately 5 to 15 construction employees. Construction would disturb approximately 10.2 acres of land (see Figure 2-2) including approximately 9.1 acres for the range expansion area and approximately 1.1 acre for the firing line improvements. Construction activities would include clearing and grubbing to remove vegetation and earthwork for range improvements. Although trees and vegetation would be removed to expand the range, the ground surface would remain permeable during operations. Additionally, a 0.35-mile overhead electric line would be constructed along the western perimeter of Range 13 to the new 800-yard impact berm. Refer to Table 2-1 for additional details about utility requirements.

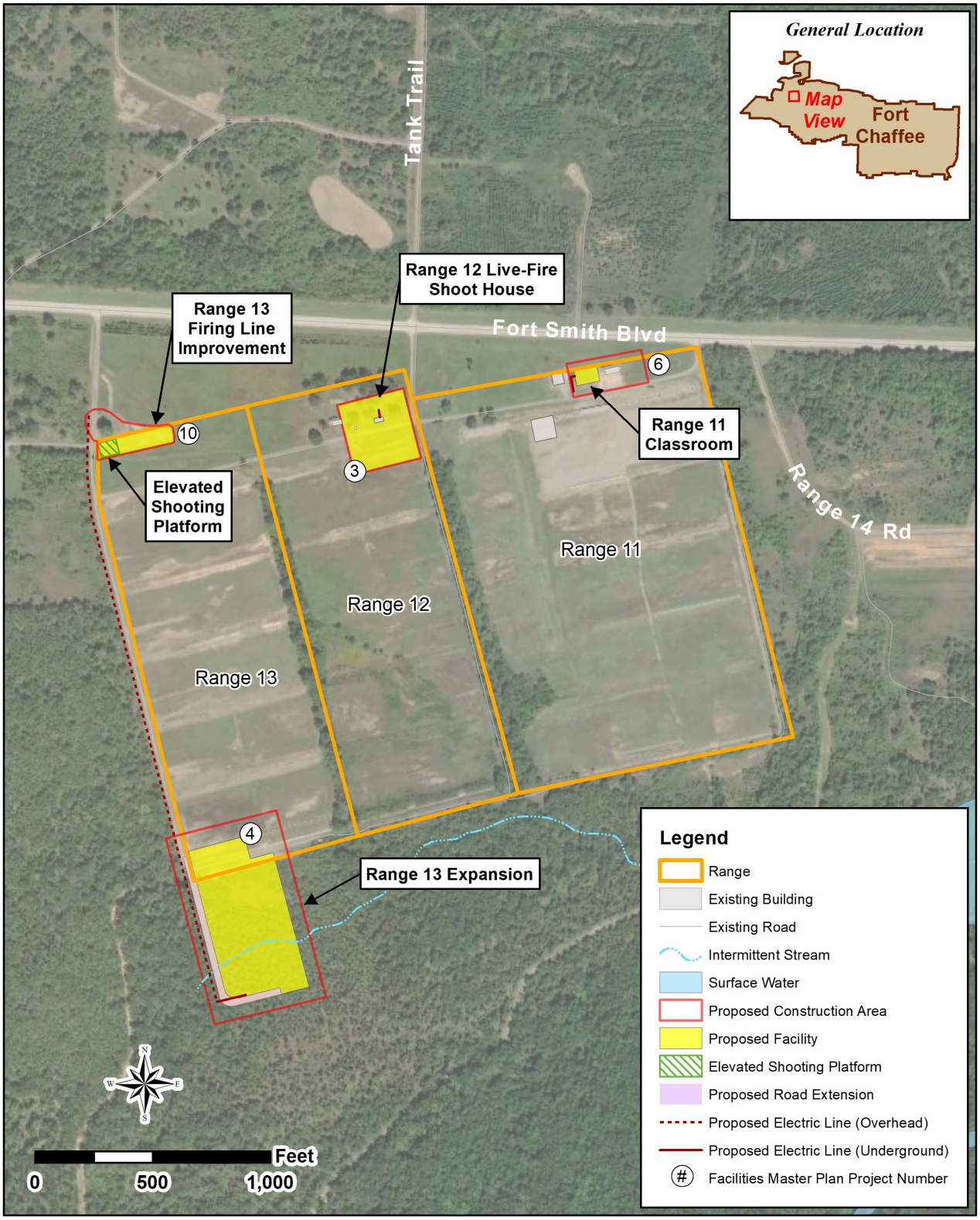


Figure 2-2. Proposed Master Plan Projects at Ranges 11, 12, and 13

Since the Range 13 Improvements project site is adjacent to ranges, there is a known presence of lead in the trees and vegetation. As a result, all trees and vegetation removed during construction would be stored on-site near the range. The range extension would cross approximately 514.2 linear feet of intermittent stream. Although the design is currently not final, the portion of the stream in the project area could involve diversion, underground piping, or swale. Training activities would not occur during construction.

Once operational, the Range 13 expansion would occupy approximately 5.7 acres. Training could occur during the day or night, but the site would not include exterior lighting for nighttime training. Normal maintenance of the range would continue to involve mowing, vegetation clearing, and weed control, as needed.

2.2.1.3 Physical Training / Intermediate Use of Force Expansion

The proposed 2,800 square foot expansion of Building 1779 to the north of the existing Physical Training / Intermediate Use of Force (PT/IUF) facility (see Project 5, Figure 2-1) would provide adequate space and configuration for PT/IUF. The expansion would increase work-load space requirements for training and other physical fitness training that is not currently accommodated in Building 1779.

Construction of the PT/IUF facility is projected to start in FY 2020, would last approximately 4 months, and would require approximately 5 to 15 construction employees. Construction activities would occur within an approximately 0.5-acre area that is currently disturbed and grass covered (see Figure 2-3) and include removal of an existing building exterior wall, excavation, compaction, foundations, and building extension. The building expansion would permanently convert approximately 0.06 acre of the project site to impervious surface. No utility or infrastructure upgrades would be required for this project.

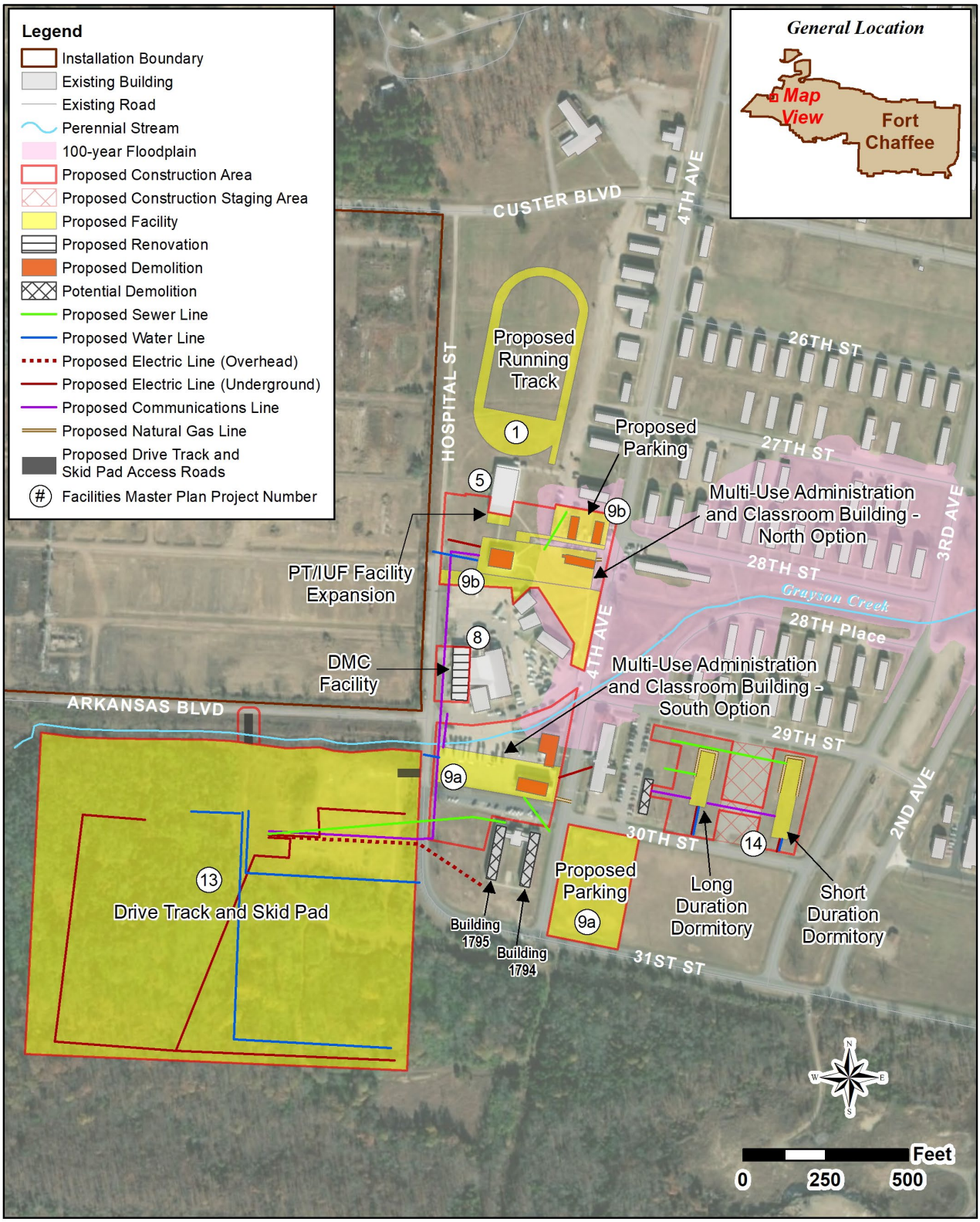
Once operational, the PT/IUF facility would occupy an additional 0.1-acre area. Use of the facility could occur during the day or night, but the newly expanded portion of Building 1779 would not include new exterior lighting.

2.2.1.4 Range 11 Classroom

The proposed Range 11 Classroom Building Project would provide a 3,500-square-foot on-site facility at Range 11 (see Project 6 in Figure 2-1 and Figure 2-2). It would meet training operational needs and improve the efficiency for extended training activities. The proposed building would include a break room and vault latrine to provide for extended training events, and alleviate the need to travel between the main TRACOM site and the live-fire range. The building would also provide an adequate “take-cover” and weather protection area.

Construction of the Range 11 Classroom Project is projected to start in FY 2020, would last approximately 6 months, and would require approximately 15 to 25 construction employees. Construction activities would occur within an approximately 1.1-acre area that is currently grass and gravel (see Figure 2-2) and include excavation, compaction, utility tie-in, paving, and structural work. Construction of the building would permanently convert approximately 0.08 acre of the project site to impervious surface. Underground electrical lines would be routed from the building to the existing overhead lines, stormwater, and fiber optic cable. Refer to Table 2-1 for additional details about utility requirements.

Once operational, the new Range 11 Classroom would occupy an approximately 0.1-acre area. It would be used during training exercises at Range 11 which could occur during the day or night. The new building would have small exterior building lights to illuminate entry doors.



Acronyms: DMC = Dye Marking Cartridge; PT/IUF = Physical Training / Intermediate Use of Force

Figure 2-3. Proposed Master Plan Projects at TRACOM Area

2.2.1.5 Carpentry Shop Consolidation

The proposed Carpentry Shop Consolidation Project would involve construction of an approximately 9,500-square-foot carpentry shop within the LSS (see Project 7 in Figure 2-1 and Figure 2-4). This new building would co-locate the wood shop with lumber storage and logistics. Moving these functions would free space within the Limited Area for re-purposing, such as for additional training space. Materials and equipment would also be consolidated from Building 1789 (the existing carpentry shop) and Building 542 where target fabrication is currently executed.

Construction of the Carpentry Shop Consolidation Project is projected to start in FY 2021, would last approximately 8 months, and would require approximately 15 to 25 construction employees. Construction activities would occur within an approximately 0.6-acre area (see Figure 2-4) and include site preparation, foundations, utility tie-ins, and structural work. Utility tie-ins would be required for underground electrical line, 4-inch water line, 4-inch wastewater line, and fiber optic communication cables. Refer to Table 2-1 for additional details about the new utility lines.

Once operational, the Carpentry Shop would occupy approximately 0.3 acre. The new building would have small exterior building lights to illuminate entry doors. Relocation of the Carpentry Shop from the Limited Area to the LSS area would reduce operational truck trips between the two sites for supply delivery and worker supervision by seven roundtrip truck trips per week due to collocation of the facilities.

2.2.1.6 Multi-Purpose Dye Marking Cartridge Facility

The proposed Multi-Purpose Dye Marking Cartridge Facility Project would convert the old carpentry shop in Building 1789 into a space with movable walls for Dye Marking Cartridge training. This project is internal to Building 1789 located in the Limited Area of Fort Chaffee (see Project 8 in Figure 2-1 and Figure 2-3).

This project would occur after the carpentry shop is relocated to the LSS, resulting in the western wing of Building 1789 available for reuse. The western wing of Building 1789 is approximately 7,500 square feet and has 16-foot ceilings that would support Dye Marking Cartridge training. OST does not currently have this capability which is needed to support Federal Agent Basic and SRF Training. The inside of the renovated facility would be similar to the inside of a CQC except that there would be no live-fire training. There would be a catwalk above for observation of training activities. Training could occur during the day or night, but the site would not require any new exterior lighting beyond the existing lights on the building.

Construction is projected to start in FY 2021, would last approximately 8 months, and would require approximately 15 to 25 construction employees. Construction activities would include indoor work to remove existing features (e.g., walls) and replace with features required for Dye Marking Cartridge training. Approximately 0.2-acre of land outside of the existing building would be used for construction staging and laydown and would revert back to existing conditions after construction. Since this project would involve conversion of the interior functions of a building, there would be no change to impervious surfaces at the site. No utility or infrastructure upgrades would be required for this project.

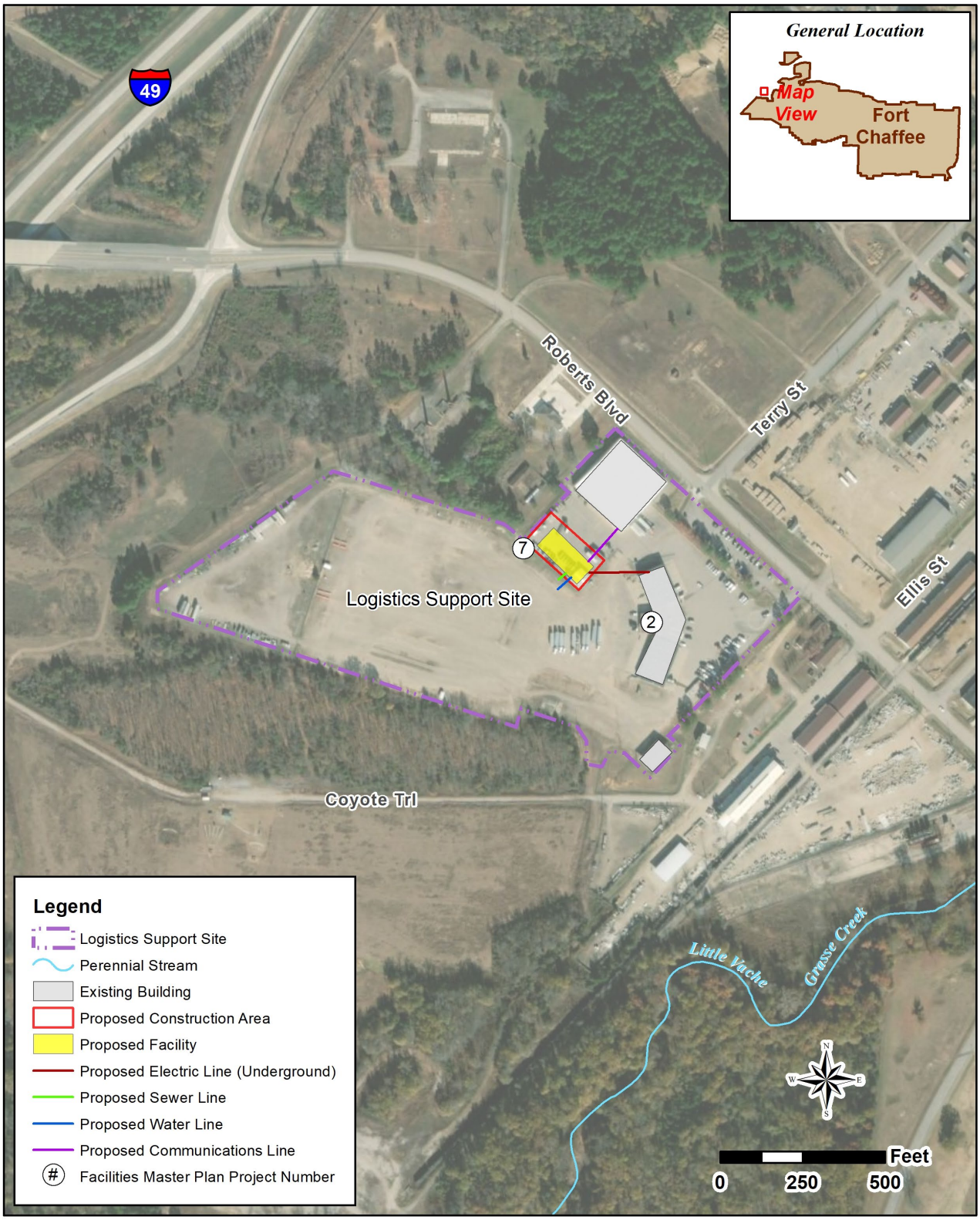


Figure 2-4. Proposed Master Plan Projects at the LSS Area

2.2.1.7 Multi-Use Administration and Classroom Building

The Multi-Use Administration and Classroom Building Project would consolidate functions from currently inadequate ARARNG facilities to a modern, energy-efficient, training and administration facility for OST. The new building would be approximately 35,000 square feet and include security fencing and pavement for a parking lot. TRACOM administrative functions would be consolidated with the training branches to increase communication and share administrative resources such as conference rooms, storage, and other common spaces such as break rooms. The Emergency Control Center would be relocated to the new facility and collocated with telecommunications. Other functions would be provided within this facility such as traditional classrooms, multi-purpose classrooms, and an auditorium capable of supporting large briefings and all-hands meetings.

Construction of the Multi-Use Administration and Classroom Building is projected to start in FY 2021, last approximately 12 to 18 months, and require approximately 20 to 30 construction employees. Construction activities would include demolition, clearing, excavation, grading, utility tie-ins, paving of a new parking lot, and structural work. Utility and infrastructure extensions would be routed to the new building including underground electrical, 8-inch water, 6-inch wastewater, stormwater, 3-inch natural gas line, and fiber optic communication cable. Refer to Table 2-1 for additional details about the new utility lines.

Old ARARNG buildings currently housing these functions are currently managed by ARARNG. After completion of the real estate agreement between OST and ARARNG, OST would have control of the buildings and could maintain the buildings or demolish. Demolition would remove approximately 14,000 square feet of building space including the following offices: administration, firearm branch, tactics branch, and drive branch. Depending on the final design selection, existing facilities within the footprint of the new building would be demolished. Further details are provided in the discussion below about the building location options.

Once operational, the Multi-Use Administration and Classroom Building would occupy an approximately 0.9-acre area. A 250-kilowatt natural gas fired backup generator would be available for emergency power only. Since the new building could be used during the day or night it would have small exterior building lights to illuminate entry doors. The new parking lot would have typical parking lot lighting.

OST is considering two alternative locations for the Multi-Use Administration and Classroom Building, a South Option and a North Option. Figure 2-1 presents the two locations as Projects 9a (South Option) and 9b (North Option). Figure 2-3 presents the disturbance area for the two alternative locations for the Multi-Use Administration and Classroom Building. Project 9a would site the building within the Limited Area, and Project 9b would site the building to the north of the Limited Area but within the TRACOM area.

Multi-Use Administration and Classroom Building – South Option, Project 9a

The South Option for the proposed Multi-Use Administration and Classroom Building Project would occupy an approximately 2.6-acre operational area for the new building and parking lot. The construction footprint for the project would require a total of approximately 4.8 acres (see Project 9a, Figure 2-3).

The construction footprint for the new building would occupy 3.1 acres that currently includes a paved parking area and Buildings 1792 and 1793, which would be demolished. An existing drainage swale that serves as a water conveyance of Grayson Creek is routed through the site and would be placed underground (e.g., culvert) and paved over to support embarkation operations (i.e., parking and operational area necessary to support operational requirements in the Limited Area). An approximately 0.4-acre portion of the proposed underground relocation of the drainage system and operational area in the Limited Area would be within the 100-year floodplain (see Figure 2-3).

Approximately 0.9 acre of previously disturbed land within the Limited Area would be required for the operational area of the new building. The new building would be located on existing impervious paved land. To support the South Option, a new 110-space parking lot would be constructed in an approximately 1.7-acre grassy field across the street from Building 1794 (see Figure 2-3). As a result, the parking lot would permanently convert the 1.7-acre area to impervious surface. Construction activities, duration, and staffing would be consistent with the details described above.

Multi-Use Administration and Classroom Building – North Option, Project 9b

The North Option for the proposed Multi-Use Administration and Classroom Building Project would occupy an approximately 2.2-acre operational area of previously disturbed land to the north of the Limited Area but still within the TRACOM area (see Project 9b, Figure 2-3). The construction footprint for the project would occupy 5.5 acres that currently includes grass areas, paved sidewalks, and Buildings 1791, 1786, 1784, and 1785, which would be demolished.

The North Option would include a new building that would occupy an approximately 0.9-acre area. An additional 1.3 acres would be required for an approximately 50-space parking lot, sidewalk, and concrete area (see Figure 2-3). As a result, the North Option would permanently convert approximately 2.2 acres to impervious surface. Depending on building design, approximately 1.4 acres of the project area could be located within the 100-year floodplain, including 0.4 acre of the proposed building and 1 acre for the parking lot, sidewalk, and concrete area. Construction activities, duration, and staffing would be consistent with the details described above.

2.2.1.8 Multi-Use Elevated Shooting Platform

The proposed Multi-Use Elevated Shooting Platform Project would provide capabilities needed to support Designated Marksman training which is currently executed off-site. Range 13 has been selected as the site location for the Multi-Use Elevated Shooting Platform (see Project 10 in Figure 2-1 and Figure 2-2). The firing points would be provided at various elevations and can have rooftop, window, or other unique firing positions. The structure would also support rappelling and climbing tower training, as needed.

Figure 2-2 presents the potential disturbance area (approximately 1.1 acres) for the Multi-Use Elevated Shooting Platform at the Range 13 firing line. Construction of the Multi-Use Elevated Shooting Platform Project is projected to start in FY 2021, would last approximately 6 months, and would require approximately 5 to 15 construction employees. Construction activities would include excavation, compaction, foundation, and structure. Approximately 0.02 acre of the project site would permanently convert to impervious surface for the new structure. No utility or infrastructure upgrades would be required for this project.

Once operational, the Multi-Use Elevated Shooting Platform would occupy approximately 0.1 acre. Training could occur during the day or night, but the site would not include exterior lighting for nighttime training.

2.2.1.9 Range 17A Breaching Pad/Method of Entry House

The proposed Range 17A Breaching Pad/Method of Entry (MOE) House Project would expand the explosive breaching program. Figure 2-1, Project 11, presents the location of Range 17A. The Breaching Pads would support the entry level "crawl" phase of training known as "Crawl, Walk, Run." Two pads with multiple entry ports at each would expedite throughput of training. The adjacent 2,000-square-foot MOE House would support the intermediate training known as "Walk." The multi-story tilt-up concrete construction would provide a variety of training scenarios and allow for overhead observation.

Construction of the Range 17A Breaching Pad/MOE House Project is projected to start in FY 2021, would last approximately 6 months, and would require approximately 5 to 15 construction employees. Construction activities would occur within an approximately 0.4-acre area that is currently disturbed with grass and gravel surface (see Figure 2-5) and include demolition, paving, and structures. Approximately 0.06 acre of the project site would permanently convert to impervious surface for the new structures. The site also contains a concrete pad with wood walls and doors for breaching training. Since the design and layout of the site are not final, the existing structure could be demolished or remain in place. If the existing structure is removed, the new MOE structure would be located in the same footprint of the existing breaching structure to be demolished and include a two-story concrete block structure and a small concrete pad with wood framing to simulate walls. The two breaching pads would be located nearby within the Range 17A project area. No utility or infrastructure upgrades would be required for this project.

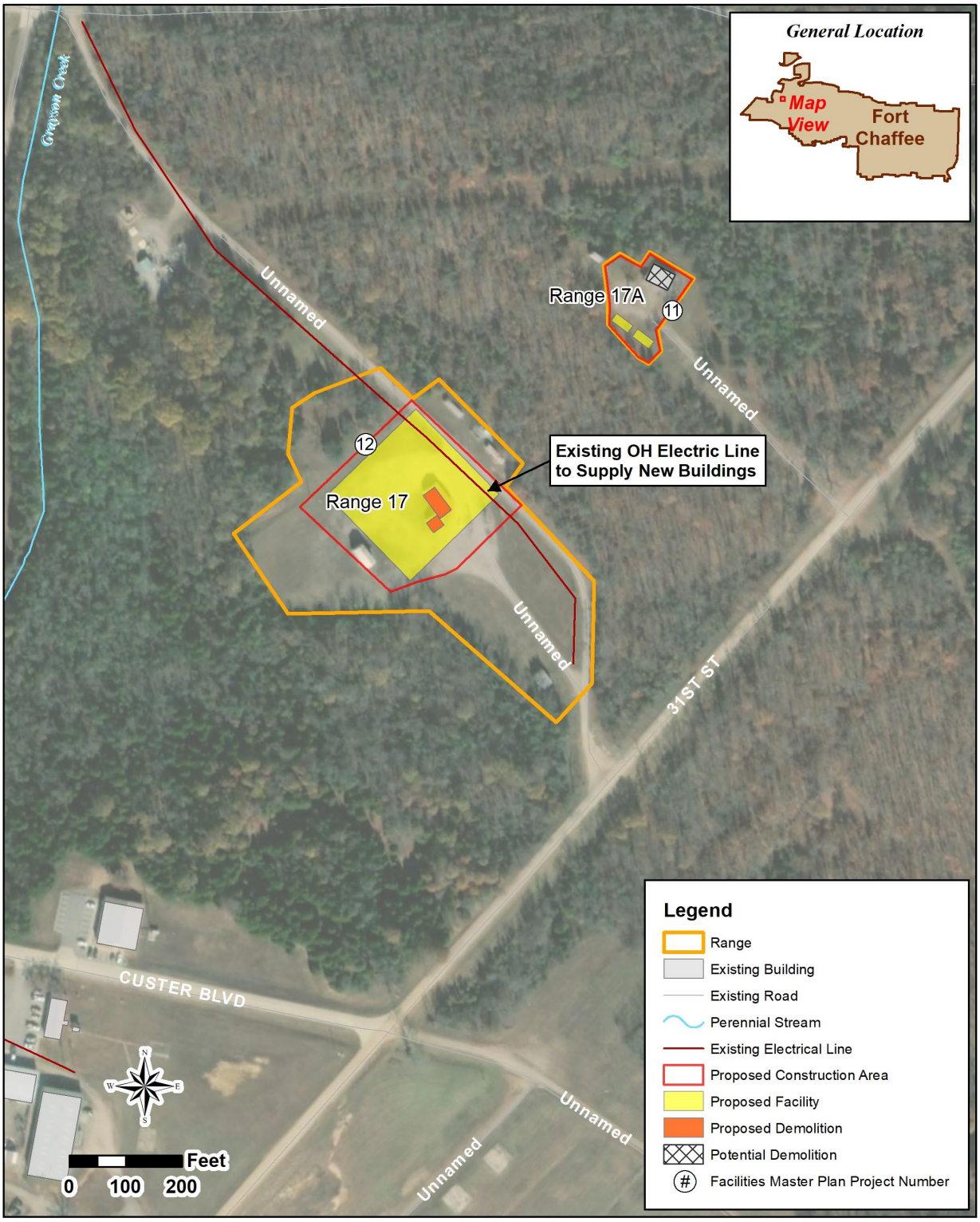
Once operational, the Breaching Pad/MOE House would occupy less than 0.1 acre. Training could occur during the day or night, but the site would not include exterior lighting for nighttime training.

2.2.1.10 Range 17 Upgrade

The proposed Range 17 Upgrade Project would provide an approximately 1.1-acre Urban Combat Training Facility to support Operational Readiness Training and Agent Candidate Training. The upgrade would provide a facility to accurately simulate a public fuel station and truck stop for urban combat training. The site would provide training environments including: truck refueling, motor vehicle refueling, truck and personally owned vehicle parking, a maintenance garage, convenience store, restaurant and restrooms. These training features would be simulation facilities and would not contain fuel storage or water services. Range 17 is operated by the ARARNG and is currently used by OST (see Project 12 in Figure 2-1 and Figure 2-5).

Construction of the Range 17 Upgrade Project is projected to start in FY 2021, would last approximately 12 months, and would require approximately 20 to 30 construction employees. Construction activities would occur within an approximately 1.6-acre area that is disturbed and include demolition, excavation, compaction, utility tie-in, paving, and structures. Construction of the new facility would permanently convert approximately 0.9 acre of the project to impervious surface. No utility or infrastructure upgrades would be required for this project since electrical needs would be met by the existing overhead electrical line through the project area.

Once operational, the Urban Combat Training Facility would occupy approximately 1.1 acre. Training could occur during the day or night, but the site would not include exterior lighting for nighttime training.



Acronyms: OH = Overhead

Figure 2-5. Proposed Master Plan Projects at Ranges 17 and 17A

2.2.1.11 Drive Track and Skid Pad

The proposed Drive Track and Skid Pad Project would provide on-site infrastructure to support basic tractor trailer and escort drive training and advanced escape and/or evade training. These functions are currently conducted off-site. Relocating these functions to Fort Chaffee would eliminate the costs of facility leasing fees and provide a safer, more controlled environment.

The Drive Track and Skid Pad would be located in an approximately 25.7-acre area of currently developed and undeveloped land within Fort Chaffee (see Project 13 in Figure 2-1 and Figure 2-3) that would be used by OST under a permit agreement. Colocation of the track adjacent to the current Limited Area would result in significant cost savings in logistics and maximize throughput of students. The Drive Track and Skid Pad would maintain a 25-foot buffer from Grayson Creek, except where utility and infrastructure crossings would be required (e.g., the proposed access road to access Arkansas Boulevard and the underground communication line routed along the east side of Hospital Street) (see Figure 2-3). The infrastructure would include a 400 x 400 foot skid pad, approximately 1.5 miles of drive track, a control tower, 250,000-gallon water tank, a 2-acre detention basin, a stormwater capture system, perimeter fencing, and stadium lighting. Since training could occur during the day or night, the control tower would have small exterior building lighting to illuminate entry doors and the roadway area would have stadium lighting.

Construction of the Drive Track and Skid Pad is projected to start in FY 2022, would last approximately 12 months, and would require approximately 10 to 20 construction employees. Construction activities would occupy approximately 25.8 acres and include clearing, excavation, grading, compaction, utility tie-ins, paving, and structural work. Since the site is within the cantonment area and not part of the range complex, all trees and vegetation removed during construction would be disposed either on-site in a designed area or hauled off-site to a waste facility. Construction of the new facility (i.e., pavement, control tower building) would permanently convert approximately 6.8 acres of the project site to impervious surface. Utility extensions and tie-ins would include underground and overhead electrical, 6-inch water line, 8-inch wastewater line, and fiber optic communication cables. Refer to Table 2-1 for additional details about the new utility lines. OST is considering two different entry points for a paved access road to the Drive Track and Skid Pad and plans to select one once the project design is finalized. One access road alternative would connect to Hospital Street and would be located within the proposed project area. The second access road alternative would connect to Arkansas Boulevard and cross Grayson Creek. See Figure 2-3 to view the access road locations that OST is considering for the Drive Track and Skid Pad.

Once operational, the Drive Track and Skid Pad would be used intermittently throughout the year. The tractor trailers and escort vehicles would be stored in the TRACOM area on Fort Chaffee and fueled off-post prior to entering the Drive Track and Skid Pad for training. Operational personnel would park personal vehicles by the control tower during training operations. Operational maintenance of undeveloped areas within the Drive Track and Skid Pad would be limited to mowing and weed control of grass. The concrete paved skid pad area would be surrounded by a water spraying system to provide the training option of slick driving conditions. Slick driving conditions training would only occur for approximately one-third of the annual training events and require approximately 10,000 gallons per day of water. Considering the amount training that would involve wet/slick driving conditions, it is estimated that approximately 500,000 gallons per year of water would be used. Water would be maintained in the 250,000-gallon water tank and would be replenished through a water recycling system. Water used for the skid pad would be collected through gutters and drain to the stormwater detention basin. The water tank would connect to the detention basin. Although water would be maintained in the water tank via the recycling system, 6,000-gallon water trucks would replenish the water tank approximately 80 times per year. No water treatment is currently planned. Depending on final project design, OST could decide to use portable water trucks to create slick driving conditions. If portable water trucks would be used, the drainage system and stormwater detention basin would be used but the 250,000-gallon water tank and water utility lines would not be required. The frequency of trucks would remain consistent at approximately 80 water trucks per year.

2.2.1.12 OST Dormitory Replacement

The proposed OST Dormitory Replacement Project would upgrade the OST dormitories to provide temporary housing for personnel on-site. The new dormitories would be separated into two categories, long duration dormitory (12,600 square feet) and short duration dormitory (18,300 square feet). This would provide the appropriate amenities necessary in each room to reflect their duration of stay. The site is located near the Limited Area and takes advantage of the existing parking lot (see Project 14 in Figure 2-1 and Figure 2-3). The existing dorms (Buildings 1794 and 1795) were built with 1940's Army construction and currently are operated by ARARNG. After completion of the real estate agreement between OST and ARARNG, OST would have control of the existing dorms and could maintain the buildings or demolish after construction is completed. The new facilities would be less maintenance intensive, more energy efficient, and provide higher quality accommodations.

Construction is projected to start in FY 2022, would last approximately 18 months, and would require approximately 20 to 30 construction employees. Construction activities would occur within an approximately 2.2-acre area that is primarily grass-covered, and include clearing, excavation, compaction, foundations, utility routing and tie-ins, paving, and structures. Construction would also utilize the existing paved parking area for staging and laydown, and some utility routing. The new building and sidewalks would permanently convert approximately 0.8 acre of the project site to impervious surface. Utility extensions and tie-ins would include underground electrical, 3-inch natural gas line, 6-inch water line, 6- to 8-inch wastewater line, and fiber optic communication cable. Refer to Table 2-1 for additional details about the new utility lines.

Once operational, the new OST dormitory buildings would occupy an approximately 0.5-acre area. A 250-kilowatt natural gas fired backup generator would be available for emergency power only. The new buildings would have small exterior building lights to illuminate entry doors.

2.3 NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no construction or operation of Projects 3 through 14 as listed in Table 2-1 and contained in the Facilities Master Plan. The No Action Alternative would include continued use of existing facilities at Fort Chaffee and off-site facilities, which would not meet the current training needs of NNSA OST. The No Action Alternative provides a basis of comparison for the Proposed Action and also addresses issues of concern by avoiding or minimizing effects associated with the Proposed Action. This alternative is considered in the environmental consequences analysis to provide a baseline for environmental conditions.

2.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

NEPA requires DOE to assess the range of reasonable alternatives to the Proposed Action. DOE's Proposed Action is limited to the projects described in the 2017 Facilities Master Plan; however, depending on funding availability, DOE would decide on a case-by-case basis to move forward with a particular project from the 2017 Facilities Master Plan.

2.4.1 Construction of Proposed Projects Off Installation Lands

This alternative would require NNSA to acquire land near Fort Chaffee for the Facilities Master Plan projects. Range improvements, such as live-fire shoot house and urban combat facilities, would be built on newly acquired land. This alternative would require several years to acquire land and construct new, state-of-the-art facilities, thus delaying training. Land acquisition would also be very expensive, and funding for training is already scarce. For these reasons, this alternative is not a viable alternative and will not be carried forward for further analysis.

2.4.2 Use of Simulations Instead of Construction Modernized Ranges

This alternative would involve the use of simulations instead of live-fire weapons and urban combat training. OST's training strategy already includes the use of a mix of live-fire, virtual (simulations) training, constructive training, and gaming to meet the OST agents and unit training requirements. Simulation training involves the development of virtual simulations, which are substitutes for live-fire. Although OST uses simulations for some weapons training, simulations do not replace the need for live-fire training. Submunitions and non-explosive or lower-caliber munitions intended for training use are sometimes utilized by OST as a training alternative, but these munitions lack the training value of firing the same munitions OST agents utilize. This alternative is not a viable alternative and will not be carried forward for further analysis.

2.4.3 Travel To and Use of Other Installations' Ranges and Training Lands

This alternative would involve travel to other installations to conduct training. The transportation of OST agents, weapons, and equipment to another installation for daily, routine training significantly increases the cost and time required to conduct training. These costs vary depending on the distance traveled, number of OST agents involved, the weapons and equipment being used, and other factors, such as weather conditions. Because the number and types of ranges on an installation are based on the training load and the requirements of units stationed on the installation, another installation would not be able to support both its assigned units and additional units from the Transportation Safeguards Training Site. Lastly, given the costs of transportation per diem, loss of training time, and additional logistics associated with the movement of a large number of troops and their equipment, this alternative is prohibitively expensive, unsustainable, and time-consuming. This is not a viable alternative and will not be carried forward for further analysis.

2.5 COMPARISON OF IMPACTS

Table 2-2 presents the potential impacts of the Proposed Action and No Action Alternative.

Table 2-2. Comparison of Impacts

Resource Area	Proposed Action	No Action Alternative
Air Quality	Negligible	Negligible
Biological Resources	Minor	Negligible
Cultural Resources	Negligible	Negligible
Geology and Soils	Geology – Negligible / Soils - Minor	Negligible
Greenhouse Gases and Climate Change	Negligible	Negligible
Infrastructure and Utilities	Negligible	Negligible
Hazardous Materials and Wastes	Negligible	Negligible
Land Use and Aesthetics	Negligible	Negligible
Noise	Negligible to Minor/Moderate (Construction Only)	Negligible
Socioeconomics	Negligible	Negligible
Community Services	Negligible	Negligible
Environmental Justice	Negligible	Negligible
Traffic and Transportation	Negligible	Negligible
Water Resources	Minor	Negligible
Cumulative Effects	Negligible to Minor	Negligible

CHAPTER 3 ENVIRONMENTAL SETTING AND CONSEQUENCES

3.1 INTRODUCTION

This section provides relevant environmental, cultural, and socioeconomic baseline information, and identifies and evaluates the potential for resource impacts resulting from implementing the Facilities Master Plan at the Transportation Safeguards Training Site. The Region of Influence (ROI) for this EA generally includes the footprint of the Facilities Master Plan projects and the immediately adjoining properties.

The methodology used to identify the existing conditions and to evaluate potential impacts on the physical and human environment involved the following: review of documentation and project information provided by NNSA and Fort Chaffee, searches of various environmental and agency databases, agency consultations, and a site visit conducted on August 3, 2018. All references are cited, where appropriate, throughout this EA.

Wherever possible, the analyses presented in this chapter quantify the potential impacts associated with the Proposed Action and the No Action Alternative. Where it is not possible to quantify impacts, the analyses presents a qualitative assessment of the potential impacts. The following descriptors qualitatively characterize impacts on each resource area analyzed:

- Beneficial – impacts would improve or enhance the resource.
- Negligible – no apparent or measurable impacts expected.
- Minor – the action would have a barely noticeable or measurable adverse impact on the resource.
- Moderate – the action would have a noticeable or measurable adverse impact on the resource. This category could include potentially significant impacts that could be reduced to a lesser degree by the implementation of mitigation measures.
- Significant – the action would have obvious and extensive adverse impacts that could result in potentially significant impacts on a resource despite mitigation measures.

3.1.1 Level of Resource Area Analysis

All potentially relevant resource areas were initially considered for analysis in this EA. Consistent with NEPA implementing regulations and guidance, DOE focuses the analysis in an EA on topics with the greatest potential for environmental impacts. CEQ regulations encourage NEPA analyses to be as concise and focused as possible, consistent with 40 CFR 1500.1(b) and 1500.4(b): "…NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail … prepare analytic rather than encyclopedic analyses." This sliding-scale approach is consistent with NEPA (40 CFR 1502.2(b)), under which impacts, issues, and related regulatory requirements are investigated and addressed with a degree of effort commensurate with their importance.

Table 3.1-1 presents each environmental resource area and corresponding ROIs and thresholds of significance. The table also identifies those resource areas that are dismissed from further analysis or are fully analyzed in this EA, and the rationale for dismissing or analyzing each resource area. In conducting this analysis, a qualified subject matter expert reviewed the potential direct and indirect effects of the Proposed Action relative to each environmental resource. The subject matter expert carefully analyzed and considered the existing conditions of each resource area within the Proposed Action's ROI. Through this analysis, it was determined that, for several resource areas, negligible adverse effects would occur. These resource areas included air quality, cultural resources, geology, greenhouse gases and climate change, infrastructure and utilities, hazardous materials and wastes, land use and aesthetics, groundwater, wetlands, socioeconomics, community services, environmental justice, and traffic and transportation.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Air Quality	Metropolitan Fort Smith Interstate Air Quality Control Region	Significant impacts to air quality would occur if the Proposed Action generated emissions that: • Exceed the general conformity rule *de minimis* (of minimal importance) threshold values; or • Contribute to a violation of any Federal air regulation.	Yes	Fort Chaffee is in attainment for all criteria pollutants, and therefore, the General Conformity Rule does not apply. The Proposed Action would not significantly affect air quality. The Proposed Action would generate temporary construction emissions from demolition and construction activities spread over the course of 4 years, including particulate matter and other criteria pollutants. Operation of the projects would generate negligible air emissions and particulate matter. Only two projects would result in new stationary sources of emissions due to a new natural gas-fired backup generator at the OST Dormitory and Multi-Use Administration and Classroom Building. Although new stationary sources, emissions would only result when use of the backup generators are warranted. Range training activities could create dust which would be minimal and generally consistent with existing training activities. The Drive Track and Skid Pad would generate air emissions due to vehicle and truck use for training and water transport. Approximately 10 trucks and vehicles would be used during training that occurs approximately 30 weeks per year, and water truck transport to fill the water tower would occur approximately 80 times per year. The resulting air emissions from operation of the Drive Track and Skid Pad would only occur during training days and would be negligible. Relocation of the Carpentry Shop from the Limited Area to the LSS area would reduce operational truck trips. Currently, approximately seven roundtrip truck trips per week occur between the two sites for supply delivery and worker supervision. Those truck trips would no longer be needed under the proposed relocation of the Carpentry Shop to the LSS, resulting in a minor, beneficial impact on air quality due to a reduction in truck emissions. As a result, this resource area is not further discussed in this EA.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Biological Resources	Biological resources within or adjacent to project footprint.	Impacts to biological resources would be considered significant if there were a: • Substantial permanent conversion or net loss of habitat at the landscape scale; • Long-term loss or impairment of a substantial portion of local habitat (species-dependent); • Loss of populations of species; • Unpermitted or unlawful "take" of ESA-protected threatened or endangered species, or species protected under the Bald and Golden Eagle Protection Act or Migratory Bird Treaty Act; or • Violation of policies, regulations, and permits related to wetlands conservation and protection.	No	Construction could result in temporary adverse impacts to vegetation within and adjacent to the proposed project areas through disturbance. These impacts would be permanent in areas cleared for development. Potential impacts to wildlife include direct and indirect temporary and permanent impacts due to habitat degradation, obstructions to movement patterns, noise, and potential mortality. Nearby streams, and associated aquatic flora and fauna, could be affected by runoff, sedimentation, and alteration of the waterway. As a result, this resource area is further discussed in Section 3.2, Biological Resources.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Cultural Resources	Cultural resources within project footprint.	A significant impact would occur if the project were to: • Cause substantial adverse change in the significance of historical or archaeological resources as defined in the NHPA; or • Disturb any human remains, including those buried outside of formal cemeteries.	Yes	Fort Chaffee has a complete Phase I archaeological inventory (Military Department of Arkansas 2016). Both the Arkansas Historic Preservation Program (AHPP) and the Arkansas Archeological Survey's Automated Management of Archeological Site Data in Arkansas database were reviewed to determine the presence of cultural resources within the project footprints. The records did not indicate the presence of any archaeological sites within the potential limits of disturbance. The records did indicate two buildings, 1785 and 1784, identified for potential demolition as part of the Multi-Use Administration and Classroom Building, as "unknown" eligibility status. Further coordination with the ARARNG Cultural Resources Manager confirmed the AHPP concurred these buildings are not eligible for the National Register of Historic Places in a letter dated November 19, 2013. Both structures were determined to be temporary World War II (WWII) buildings, and per the 1986 Programmatic Memorandum of Agreement regarding WWII Temporary Mobilization Buildings, they may be demolished without further review by the AHPP. The Fort Chaffee Historic District is located approximately 0.25 mile northeast of the LSS area. The Carpentry Shop Consolidation Project would not adversely affect the Historic District due to the distance and existing development between the two sites. In the event of an inadvertent discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony during construction, the Cultural Resource Manager would ensure that all appropriate measures are implemented to protect the remains and any other protected cultural items in accordance with 2016 – 2020 Update ICRMP for Sites and Training Installations of the ARARNG.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Geology and Soils	Geology and soils within and adjacent to project footprint.	Impacts would be considered significant if they: • Result in substantial soil erosion or topsoil loss; or • Are located on a geologic unit or soil that is unstable, or would become unstable due to the project, potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Yes (geology) / No (soils)	Construction activities would have the potential for surficial (soil) impacts, but impacts to geological resources are not anticipated. As a result, no further analysis is required for geology. Construction would result in disturbed soils and increased erosion from earth-moving activities. Soil resources are discussed in Section 3.4, Soils.
Greenhouse Gases and Climate Change	Sebastian County, Arkansas	Significant impacts to greenhouse gases would occur if the Proposed Action contributes to substantial greenhouse gas emissions and climate change.	Yes	Fort Chaffee is in Climate Zone 3 with an average annual temperature of 61.6 degrees Fahrenheit (U.S. Climate Data 2018). The Proposed Action would not generate substantial or continuous, long-term greenhouse gas emissions or contribute to climate change. Implementation of the Facilities Master Plan projects would generate temporary emissions from construction activities, including greenhouse gases. Operation of the projects would generate greenhouse gas emissions from vehicles and trucks. These increases, however, would be insignificant to greenhouse gas levels and to climate change contribution. Additionally, relocation of the Carpentry Shop from the Limited Area to the LSS area would reduce operational truck trips, resulting in a minor, beneficial impact on greenhouse gases due to a reduction in truck emissions. As a result, this resource area is not further discussed in this EA.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Infrastructure and Utilities	Infrastructure and utilities within Fort Chaffee and adjacent communities.	A significant impact would occur if the project were to result in a substantial increase in any utility consumption to the extent that generation capacity is exceeded, based on currently available projections, or unacceptable demands are placed on infrastructure supply and distribution systems.	Yes	The Proposed Action would involve utility extension and connections from some new buildings to existing infrastructure; however, the capacity exists within the existing utility system to accommodate these projects. All utility work would occur within the boundary of Fort Chaffee. The water requirements for the water tower at the Drive Track and Skid Pad would be fulfilled by domestic water fire hydrants at Fort Chaffee, which are supplied by the City of Fort Smith. Although the water requirements for the Drive Track and Skid Pad would increase the water demand at Fort Chaffee, the City of Fort Smith has capacity to accommodate the less than 2 percent increase in water demand due to the Drive Track and Skid Pad project. New buildings would be more energy-efficient than existing buildings, resulting in a potential net reduction in energy use. As a result, this resource area is not further discussed in this EA.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Hazardous Materials and Wastes	Areas within and adjacent to of project footprint.	A significant impact would occur if the project were to: • Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or • Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Yes	Fort Chaffee is classified as a very small quantity generator of hazardous waste (Permit # ARR000004515) under RCRA. In 2017, an Operational Range Assessment Periodic Review of Fort Chaffee was completed to assess whether Munitions Constituents of Concern (MCOC) present at training ranges (i.e., primarily metals and explosives) are migrating off operational training ranges at concentrations that could pose an unacceptable risk to human health and/or the environment. The pathways by which MCOC may be transported off-range are typically surface water (i.e., streams, rivers, lakes) and groundwater. The 2017 sampling data indicated that MCOC are not migrating to off-range areas at concentrations that could expose people to an unacceptable risk to human health and/or the environment (PIKA-Malcolm Pirnie JV, LLC 2018). Construction-related debris would be managed, disposed, and recycled in accordance with State and Federal requirements. Construction-related waste would include existing building materials, trees and vegetation, and general construction waste. Due to the age of some buildings and materials, some construction waste could include lead-based paint. All materials suspected to contain lead-based paint would be managed in accordance with State and Federal requirements. Additionally, trees and vegetation at or near existing ranges are known to contain lead. As a result, all trees or vegetation potentially containing lead would be maintained on-site in a designated disposal area. Materials that do not contain hazardous materials would be disposed either within the existing dirt/rock/wood fill area or hauled off-site for disposal by a licensed contractor.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Hazardous Materials and Wastes (continued)				Operational wastes would be consistent with existing waste generation, including general office and building waste and training range waste. Additionally, leakage of oils and lubricants could occur during vehicle use at the Drive Track and Skid Pad (refer to Section 3.5.3 for discussion of potential impacts to waterbodies). Hazardous materials and wastes would be managed in accordance with existing procedures and plans including the ARARNG Hazardous Chemical and Waste Management Standard Operating Procedures. As a result, this resource area is not further discussed in this EA.
Land Use and Aesthetics	Land use within or adjacent to Fort Chaffee.	Significant impacts would occur to land use and aesthetics if the Proposed Action were to: • Conflict with applicable land use plans, policies, or regulation of an agency with jurisdiction over the project; • Conflict with applicable habitat conservation plan or natural community conservation plan; or • Create a substantial change in the visual landscape, increased glare or lighting, elevated noise levels, or other factors that diminish the physical value of these resources.	Yes	The Proposed Action would not alter the current land use or recreation of the project area or adjacent parcels. All projects would occur within the property boundary of Fort Chaffee and the LSS. The Proposed Action would be consistent with the visual characteristics of the existing infrastructure at Fort Chaffee. There are no aesthetically sensitive areas within the viewshed of the projects. As stated in the cultural resources analysis, the Fort Chaffee Historic District is located approximately 0.25 mile northeast of the LSS area containing the nearest projects proposed under the Facilities Master Plan. Due to the distance and existing development between the two sites, no impacts to the viewshed of the historic district is anticipated. As a result, land use and aesthetics are not discussed further in the EA.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Noise	Areas within and adjacent to (i.e., up to 2,000 feet) Fort Chaffee.	Significant noise impacts would occur from: • Violation of any Federal, State, or local noise ordinance; • Creation of incompatible land uses for areas with sensitive noise receptors outside the project area; or • Creation of noise loud enough to threaten or harm human health.	No	Construction activities would generate temporary noise levels that could affect nearby sensitive receptors. The closest off-post sensitive receptors are approximately 820 feet from the LSS area and the closest on-post receptors are on adjacent property. Depending on the distance from the construction area to the sensitive receptor, short-term minor to moderate impacts could occur during construction activities. Long-term, negligible to minor impacts would occur during operations since noise generated from the proposed projects would be consistent with current noise levels occurring during operations and training activities. This resource area is further discussed in Section 3.3, Noise.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Socio-economics, Community Services, and Environmental Justice	Areas within Fort Chaffee and immediate surrounding communities and counties.	Impacts to socioeconomics and environmental justice would be considered significant if they were to cause: • Substantial change to the sales volume, income, employment, or population of the surrounding ROI; • Displace substantial numbers of existing housing units or people, necessitating the construction of replacement housing elsewhere; • Disproportionate adverse economic, social, or health impacts on minority or low-income populations; or • Substantial disproportionate health or safety risk to children.	Yes	The Proposed Action would not result in any appreciable effects to the local or regional socioeconomic environment. The Proposed Action would have minor beneficial effects associated with temporary employment of construction personnel and transportation of goods and materials to the construction sites. No new operational personnel would be hired to support the Facilities Master Plan projects. There would be minimal impacts on the capacity of law enforcement, fire protection, medical services, and schools during construction and operation of the Proposed Action. There would be no effects on environmental justice since the Proposed Action would not result in disproportionate adverse environmental or health effects on low-income or minority populations or children. All projects would occur within the property boundary of Fort Chaffee and the LSS. As a result, socioeconomics, community services, and environmental justice are not discussed further in this EA.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Traffic and Transportation	Public roadways and key access points within and near Fort Chaffee; roadways within Fort Chaffee boundaries.	A significant impact would occur if the project were to: • Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system; • Noticeably hinder emergency access; or • Overwhelm existing parking capacity.	Yes	The Proposed Action would temporarily result in increased truck traffic during construction. Trucks would be used to haul materials and wastes to and from the construction sites. Road closures during construction would be limited in duration and would only occur within Fort Chaffee. No new operational personnel would be hired to support the Proposed Action. Since some of the Facilities Master Plan projects involve relocation of training functions from off-site locations to Fort Chaffee, additional personnel would be at Fort Chaffee during training events. This would result in a slight increase in traffic and parking needs at Fort Chaffee, but the existing roadway and parking infrastructure is fully capable of handling the additional use. Relocation of the Carpentry Shop from the Limited Area to the LSS area would reduce operational truck trips. Currently approximately seven roundtrip truck trips per week occur between the two sites for supply delivery and worker supervision. As a result, the relocation of the Carpentry Shop would have a minor, beneficial impact on traffic due to a reduction in truck trips along the 1.5-mile route between the two sites. As a result, traffic and transportation are dismissed from this EA.

Table 3.1-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Water Resources	Watersheds, state-designated stream segments and groundwater aquifers associated with Fort Chaffee. U.S. Army Corps of Engineers (USACE) jurisdictional "Waters of the United States" and wetland resources within and adjacent to the project area.	Impacts to water resources would be considered significant if Army actions: • Violate any water quality standards or waste discharge requirements; • Result in an excess sediment load in adjacent waters, affecting impaired resources; • Result in unpermitted direct impacts to Waters of the United States, including wetlands; • Substantially affect surface water drainage or stormwater runoff, including floodwater flows; or • Substantially affect groundwater quantity or quality.	No (surface water and floodplains) Yes (groundwater and wetlands)	Construction activities could adversely impact surface water from increased sedimentation and erosion. Several projects would impact existing streams including the Range 13 Improvements, Drive Track and Skid Pad, and the Multi-Use Administration and Classroom Building. Additionally, the Multi-Use Administration and Classroom Building involves project features located within the 100-year floodplain. Surface water and floodplains are further discussed in Section 3.5, Water Resources. Construction and operation activities under the Proposed Action would not change the quality or use of groundwater. Incidental spills from construction equipment would be managed through a Spill Prevention Control and Countermeasures (SPCC) Plan. Therefore, no further analysis is required for groundwater. No wetlands exist within any of the proposed project areas; the most proximate resource lies over 1,600 feet southeast of the Range 13 Improvements project boundary. DOE would comply with wetland regulations outlined in 10 CFR 1022, *Compliance with Floodplain and Wetland Environmental Review Requirements*, during construction and operation of the Proposed Action. Therefore, no further analysis is required for wetlands.

AHPP = Arkansas Historic Preservation Program; ARARNG = Arkansas Army National Guard; CFR = Code of Federal Regulations; DOE = Department of Energy; EA = Environmental Assessment; ESA = Endangered Species Act; ICRMP = Integrated Cultural Resources Management Plan; LSS = Logistics Support Site; NHPA = National Historic Preservation Act; OST = Office of Secure Transport; ROI = Region of Influence; SPCC = Spill Prevention, Control, and Countermeasure; TRACOM = Training Command; USACE = U.S. Army Corps of Engineers; WWII = World War II

3.2 BIOLOGICAL RESOURCES

3.2.1 Affected Environment

Table 3.2-1 and Figure 3.2-1 provide an overview of the biological resources present at each of the Facilities Master Plan project sites. Sections 3.2.1.1 through 3.2.1.3 present an overview of vegetation, wildlife, and species of concern at Fort Chaffee.

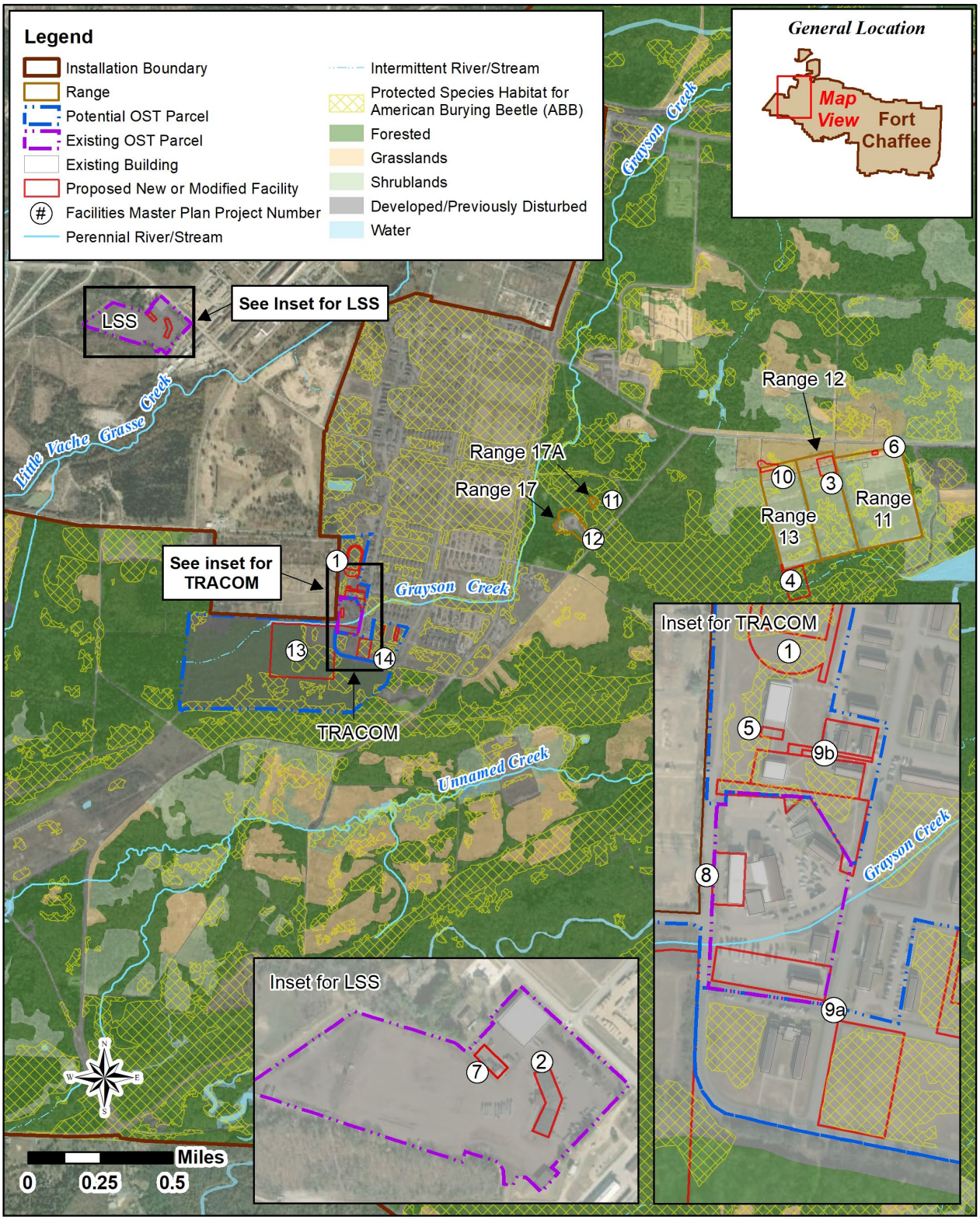
Table 3.2-1. Acres of Biological Resources at Fort Chaffee Master Plan Project Sites

Project[a, b]	Forested	Grassland	Shrubland	Developed/ Previously Disturbed	Protected Species Habitat for ABB
3. Live-Fire Shoot House	0	1.0	1.0	0.1	0.1
4. Range 13 Improvements	8.0	1.1	1.9	0.7	3.5
5. Physical Training / Intermediate Use of Force Expansion	0	0	0	0.5	0.2
6. Range 11 Classroom	0	1.1	0	<0.1	0
7. Carpentry Shop Consolidation	0	0	0	0.9	0
8. Multi-Purpose Dye Marking Cartridge Facility	0	0	0	0.4	0
9a. Multi-Use Administration and Classroom Building – South Option	0	0	0	5.2	1.9
9b. Multi-Use Administration and Classroom Building – North Option	0	0	0	3.2	0.9
10. Multi-Use Elevated Shooting Platform	0	0.1	0	<0.1	0
11. Range 17A Breaching Pad/Method of Entry House	0	0	0	0.4	0.1
12. Range 17 Upgrade	0	0	0	1.6	0.1
13. Drive Track and Skid Pad	18.5	0	0	8.4	6.6
14. OST Dormitory Replacement	0	0	0	2.3	1.9

ABB = American burying beetle; OST = Office of Secure Transportation

a. The Facilities Master Plan Projects 1 (All-Weather Running Track) and 2 (Add Offices to LSS Warehouse) are addressed in Section 3.6, Cumulative Effects, as these projects have already been funded and undergone NEPA review.

b. Values are presented in acres.



Acronyms: LSS = Logistics Support Site; OST = Office of Secure Transport; TRACOM = Training Command

Figure 3.2-1. Vegetation Types and ABB Habitat

3.2.1.1 Vegetation

A 2004 survey classified vegetative communities within four distinct habitat community types identified at Fort Chaffee (CMTC 2010):

- Forest – These communities have greater than 60 percent vegetative cover of at least 5 meters tall.
- Woodlands – These communities have 10 percent to 60 percent vegetative cover more than 5 meters tall.
- Shrublands – These communities have less than 10 percent vegetative cover more than 5 meters tall with woody vegetation making up more than 25 percent of the vegetative cover.
- Herbaceous – These communities have less than 10 percent vegetative cover more than 5 meters tall with woody vegetation making up less than 25 percent of the vegetative cover.

The 2004 survey identifies a total of 59 vegetative communities within the above four habitat community types on Fort Chaffee, of which, native grassland communities are the most ecologically significant due to their relative rarity in the region. Open woodland and shrubland communities are also regionally rare. The occurrence of each of these rare communities on Fort Chaffee is directly attributable to prescribed burns and the effects of wildland fires resulting from military maneuvers (CMTC 2010).

The most common vegetative communities found at the installation include (CMTC 2010):

- Post oak forest – This community encompasses approximately 7,786 acres of the installation. Post oak (*Quercus stallata*) dominates the community, accounting for all of the tree cover and most of the shrub layer. The herbaceous layer of this community is poorly developed. Species found in the vegetative layer include red fescue (*Festuca rubra*), trailing bush clover (*Lespedeza procumbens*), poison ivy (*Toxicodendron radicans*), and little bluestem (*Schizachyrium scoparium*). Post oak forests primarily occur on ridges and slopes.
- Post oak woodland – This community encompasses approximately 6,894 acres of the installation and is similar to the post oak forest community described above with fire frequency and intensity resulting in some differences. The shrub layer of post oak woodlands is not very developed, but the herbaceous layer is more developed than in post oak forests. Where fire is common, the diverse herbaceous layer is dominated by little bluestem, tapered rosette grass (*Dichanthelium acuminatum*), and prairie dropseed (*Sporobolus heterolepis*). Bush clovers (*Lespedeza* spp.) and asters (*Aster* spp.) are also common. This community occurs primarily on ridges and slopes and requires fire or some other form of disturbance to perpetuate the community.
- Floodplain/bottomland hardwood forest – This community encompasses approximately 5,083 acres of the installation and occurs along the floodplains and waterways of permanent streams. The tree layer is comprised of water oak (*Quercus nigra*), red oak (*Q. rubra*), Shumard's oak (*Q. shumardii*), elm (*Ulmus* spp.), sweetgum (*Liquidambar styraciflua*), and green ash (*Fraxinus pennsylvanica*). The shrub and herbaceous layers range from sparse to dense, with inundation periods from flood events determining the cover of herbaceous species.
- Little bluestem mixed grass prairie – This community encompasses approximately 4,774 acres of the installation. Little bluestem accounts for 25 percent to 45 percent of the vegetative cover of this grassland community and is co-dominant with other warm season species. The mixture of other warm season grasses is comprised of various panic grasses (*Panicum* spp.), Indian grass

(*Sorghastrum nutans*), and big bluestem (*Andropogon gerardii*), among others. Ecological disturbance consists of fire with occasional impacts from military maneuvers. This community has the highest floral diversity of any grassland/herbaceous community identified at Fort Chaffee. Other associated species of note include various native bush clovers, blazing stars (*Liatris* spp.), coneflowers (*Echinaceae* spp.), and winged sumac (*Rhus copallina*).

- Mixed native prairie – This community encompasses approximately 3,907 acres of the installation and is the most variable of the herbaceous plant communities identified at Fort Chaffee. Little bluestem has the highest mean percent cover of the herbaceous layer, but is not the exclusive dominant. This community is not heavily disturbed. Native perennial grasses are present but comprise less than 40 percent of vegetative cover. Common associated species that are essentially codominate include: tapered rosette grass, purple love grass (*Eragrostis spectablis*), and Indian grass. Winged sumac and winged elm (*Ulmus alata*) are common low cover shrubs. Other common graminoid associates are: big bluestem, velvet panicum (*Dichanthelium scoparium*), open flowered panicum, and slim leaf witchgrass (*Dichanthelium linearifolium*). This community type occurs in all topographic positions and likely represents a seral stage in native grassland development.

Trees, shrubs, and vines commonly occurring on Fort Chaffee include shortleaf pine (*Pinus echinata*), eastern redcedar (*Juniperus virginiana*), red maple (*Acer rubrum*), white ash (*Fraxinus americana*), southern red oak (*Quercus falcata*), blackjack oak (*Q. marilandica*), post oak (*Q. stellata*), pignut hickory (*Carya glabra*), mockernut hickory (*C. tomentosa*), flowering dogwood (*Cornus florida*), hawthorn (*Crateagus* spp.), fragrant sumac (*Rhus aromatica*), blackberry (*Rubus* spp.), and greenbrier (*Smilax* spp.) (FCJMTC 2014).

The trees and vegetation existing in certain areas of Fort Chaffee (i.e., in the vicinity of Range 13) contain lead due to ongoing exposure to munitions during training exercises. See the discussion of Hazardous Materials and Waste in Table 3.1-1 for further details regarding the presence of lead and management of lead-containing vegetation.

3.2.1.2 Wildlife

The Integrated Natural Resources Management Plan (INRMP) describes surveys that identified the presence of 53 mammal, 210 bird, 35 reptile, 18 amphibian, 37 fish, and more than 630 invertebrate species. The INRMP provides details regarding each of these groups of fauna, as summarized below (FCJMTC 2014).

- Mammal species found on the installation are typical of the region, with commonly encountered species including gray squirrel (*Sciurus carolinensis*), fox squirrel (*S. niger*), beaver (*Castor canadensis*), eastern cottontail rabbit (*Sylvilagus floridanus*), whitetail deer (*Odocoileus virginianus*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), muskrat (*Ondatra zibethicus*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Felis rufus*), and coyote (*Canis latrans*).

- Bird species commonly found on the installation include red-winged blackbird (*Agelaius phoeniceus*), northern cardinal (*Cardinalis cardinalis*), American crow (*Corvus brachyrhynchos*), blue jay (*Cyanocitta cristata*), brown-headed cowbird (*Molothrus ater*), Carolina chickadee (*Parus carolinensis*), field sparrow (*Spizella pusilla*), eastern meadowlark (*Sturnella magna*), and mourning dove (*Zenaida macroura*). Annual summer surveys record populations of wild turkey (*Meleagris gallopavo*) and northern bobwhite quail (*Colinus virginianus*). Bald eagle (*Haliaeetus leucocephalus*), greater prairie chicken (*Tympanuchus cupido*), and several migratory bird species are also known to occur on-site.

- Reptile and amphibian species found on Fort Chaffee include 19 species of snakes, 15 species of frogs, 8 species of lizards, 8 species of turtles, and 3 species of salamanders. These reptiles and amphibians inhabit all habitats found across the installation.

- Fish species known to be present on Fort Chaffee include shovelnose sturgeon (*Scaphyrhynchos platorynchos*), gar (*Lepisosteus* spp.), shad (*Dorosoma* spp.), pickerel (*Esox* spp.), shiners (*Notropis* spp.), buffalo (*Ictiobus* spp.), channel catfish (*Ictalurus punctatus*), blue catfish (*I. niger*), bass (*Morone* spp.), largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellis*), bluegill sunfish (*L. macrochirus*), redear sunfish (*L. microlophis*), and crappie (*Pomoxis* spp.).

3.2.1.3 Species of Special Concern

Certain species, designated as federally threatened or endangered, are protected by the ESA of 1973, under the purview of the U.S. Fish and Wildlife Service (USFWS) or the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. Due to the nature and location of the Proposed Action, no marine offshore species would be affected, and any protected species present within Fort Chaffee would fall under the jurisdiction of the USFWS. The ESA prohibits the unauthorized "take" (i.e., harassment, harm, pursuit, hunting, shooting, wounding, killing, trapping, capture, collection, or the attempt to engage in any such conduct) of federally protected species. Section 7 of the ESA requires all Federal agencies to ensure that any action authorized, funded, or carried out by them is not likely to jeopardize the continued existence of a federally protected species or adversely modify its designated "critical habitat." Critical habitat is defined by the ESA as a geographic area that contains features essential for the conservation of a threatened or endangered species that may require special management and protection. These areas are delineated by the USFWS and NOAA Fisheries Service with appropriate public review and notification in the *Federal Register*.

Federally protected species fall under one of two classifications:

- Endangered, including species, subspecies, or varieties in danger of extinction throughout all or a significant portion of their range; and

- Threatened, including species, subspecies, or varieties likely to become endangered within the foreseeable future.

Federally Protected Species

Three federally protected species under the ESA have been identified on Fort Chaffee. The threatened northern long-eared bat (*Myotis septentrionalis*) was captured in a survey conducted in 2001 and 2002, and was also acoustically identified in 2005 (FCJMTC 2014). The endangered least tern does not breed on Fort Chaffee, but has been documented within the installation along the Arkansas River (FCJMTC 2014). The endangered American burying beetle (ABB; *Nicrophorus americanus*) has been found throughout the installation. Fort Chaffee supports one of the largest known populations of ABB. Once found in at least 35 states, the ABB now only occurs in 6 states (FCJMTC 2014). Soils with a positive correlation with ABB populations are well-drained sandy loams; the soils with a significant positive correlation to ABB abundance include Mountainburg stony sandy loam and Mountainburg sandy loam. Approximately 14,127 acres of the installation have soils preferred by this species. Specific vegetative communities showing a significant positive correlation to ABB abundance on the installation include post oak woodland, little bluestem mixed grass prairie, post/blackjack oak woodland, mixed disturbed grassland, and chess mixed grasslands, which together encompass approximately 10,637 acres of Fort Chaffee (CMTC 2010).

The bald eagle (*Haliaeetus leucocephalus)*, previously federally protected but now listed as in recovery, is afforded certain protections under the Bald and Golden Eagle Protection Act of 1940. Bald eagles have

been known to breed on the installation (FCJMTC 2014). No active nests are known to be located within the Facilities Master Plan project footprints.

State Protected Species

Fort Chaffee understands the importance of sensitive species that may not be federally listed, particularly since these species have the potential to become federally listed and potentially affecting the military mission on the installation. Two State-listed species of concern have been observed on the installation. The ornate box turtle (*Terrapene ornata ornata*) inhabits prairie grassland, pasture, field, sandhills, and open woodland habitats. This reptile species is primarily terrestrial, but may enter shallow, slow-moving streams and pools. Ornate box turtles hibernate and aestivate utilizing underground burrows (NatureServe Explorer 2018). The northern scarlet snake (*Cemophora coccinea copei*) inhabits hardwood, mixed, or pine forest/woodland and adjacent open areas with sandy or loamy well-drained soils. This snake species burrows in soil or may be found under rocks or in or under logs (NatureServe Explorer 2018).

3.2.2 No Action – Environmental Consequences

Existing biological resources would remain unchanged when compared to current conditions under the No Action Alternative. This alternative would not involve any construction of facilities or changes to training or activities conducted by NNSA at Fort Chaffee, and such activities would continue as currently conducted at Fort Chaffee and off-site facilities.

3.2.3 Proposed Action – Environmental Consequences

Construction and operation of the Proposed Action at Fort Chaffee would have minor effects on biological resources, as described in the following subsections. Potential impacts would be further reduced or avoided through implementation of the following measures:

- Implement best management practices (BMPs) for soil, water, and biological resources, including reducing the potential for sedimentation and erosion in order to protect water quality and limiting clearing activities to the greatest extent practicable.
- Implement the conservation strategies outlined in the ABB Conservation Plan (CMTC 2010).
- Allow the Environmental Branch to complete a Streamline Consultation Form and receive USFWS concurrence for the northern long-eared bat prior to any tree removal.
- Comply with the *Informal Consultation and Management Guidelines for the Northern Long-Eared Bat Involving Ongoing Operations on Army National Guard Property* (ARNG 2015).
- Ensure fire-fighting resources are on hand in the event a wildfire is ignited by training devices.

3.2.3.1 Vegetation

Implementation of the Proposed Action at Fort Chaffee would have minor effects on existing vegetation. Based on the individual project descriptions presented in Section 2.2.1 and Figures 2-1 through 2-5, the majority of the proposed projects would occur on disturbed land or maintained grassy areas, and all would be sited adjacent to or in close proximity to existing facilities. The only proposed projects anticipated to result in the clearing of trees on undisturbed land are the Range 13 Improvements and the Drive Track and Skid Pad. Construction activities would require the temporary disturbance of grassy areas, but this vegetation would be restored at the conclusion of such activities. Operation of the proposed projects would require the permanent conversion (loss) of approximately 26.5 acres of forested land (see Table 3.2-1).

Vegetation removal and soil disturbance during construction could create optimal conditions for the establishment of noxious weeds and invasive plants. Construction equipment could disperse noxious weed seeds or propagules (such as buds or spores), resulting in the establishment of noxious weeds in previously

weed-free areas. The four invasive noxious weeds of greatest concern at Fort Chaffee are kudzu (*Pueraria thunbergiana*), Japanese honeysuckle (*Lonicera japonica*), *Serecia lespedeza*, and Japanese wisteria (*Wisteria floribunda*). Washing and inspecting construction equipment prior to beginning work on-site would avoid or reduce the potential introduction of invasive species to the proposed construction area. If these species become established on-site, a number of methods to control the populations and avoid the spread of these plant species would be considered, including prescribed fires, mechanical control methods, and chemical herbicides. All control methods would be reviewed to consider potential effects to the ABB (FCJMTC 2014). Impacts of invasive species are anticipated to be minor provided measures to identify and control these species are implemented.

3.2.3.2 Wildlife

The Proposed Action would temporarily disturb wildlife occurring in the immediate area of each of the proposed project sites. While the potential exists for direct mortality to small and less-mobile wildlife species during construction activities and operation of the proposed facilities, wildlife would likely temporarily avoid the immediate area due to increased human presence and associated noise. Removal of vegetation also increases the potential for the establishment and spread of noxious weeds and other invasive plants that have little use or value for wildlife and that displace native plants, resulting in degraded wildlife habitat.

Construction activities would remove vegetation, including native grasses, shrubs, and trees. Overall impacts on wildlife, however, are anticipated to be minor due to the predominately disturbed landscape. Direct and indirect temporary (short-term) and permanent (long-term) impacts on wildlife resources would occur due to loss of habitat from vegetation removal or conversion. Construction activities and noise could cause indirect mortality of species from stress or avoidance of feeding during construction due to exposure from increased human activity. These effects, however, would be temporary and spread throughout the installation over the course of 4 years, minimizing the overall level of impact.

Direct impacts to aquatic habitat from construction would occur at stream crossings. Potential direct impacts to aquatic resources from construction activities would include alteration of the streambed and bank structure, reduction or alteration of habitat, and increased sediment. Indirect impacts would include increased water temperature and decreased water quality from a rise in turbidity. As presented in Table 3.1-1 and discussed in Section 3.5, Water Resources, the only proposed projects that could affect streams are the Range 13 Improvements, Drive Track and Skid Pad, and Multi-Use Administration and Classroom Building. The portion of Grayson Creek within the Multi-Use Administration and Classroom Building – South Option has already been altered, including previous channelization and culvertization within the construction footprint of the new building. Construction and operation of this project would result in the culvertization of an additional 212.1 feet of Grayson Creek. Overall impacts to aquatic habitat would be minor as this portion of Grayson Creek has been previously disturbed and channelized into an open swale which provides limited aquatic habitat. Regarding the intermittent stream in Range 13, improvements could impact up to 514.2 linear feet of intermittent stream. Although the design is currently not final, this feature could be diverted off-range and piped underground or placed in a swale. As this feature is intermittent, it provides minimal aquatic habitat, and therefore, direct impacts to aquatic habitat would be minor.

Streams affected by the proposed Range 13 Improvements and Drive Track and Skid Pad (an unnamed stream and Grayson Creek, respectively) could also experience indirect effects to aquatic habitat from increased sedimentation resulting in degraded water quality during construction. Potential impacts to aquatic species and habitat due to sedimentation and degraded water quality are anticipated to be minor. Implementation of measures outlined in Section 3.5, Water Resources, would further minimize impacts. NNSA would coordinate with the U.S. Army Corps of Engineers (USACE) Little Rock District during site design to reduce adverse effects and adhere to any permit stipulation or mitigation requirements.

3.2.3.3 Species of Special Concern

Federally Protected Species

NNSA and Fort Chaffee has concluded the Proposed Action may affect, but is not likely to adversely affect, the ABB and is not likely to adversely affect the interior least tern and northern long-eared bat. The following species-specific discussions and conservation measures provide a basis for these conclusions. Fort Chaffee is consulting with the USFWS to concur with the EA findings. During preparation of the Draft EA, USFWS identified several projects involving tree clearing and potential habitat loss (e.g., the Range 13 Improvements and the Drive Track and Skid Pad), that could require mitigation, described below.

ABB (ESA). The ABB is the only federally protected species under the ESA known to inhabit the project area through all stages of its life cycle. A conference presentation by the University of Nebraska at Kearney entitled *The impacts of light and light types on nocturnal carrion beetles (Silphidae) including ABB* (Anschutz *et al*. 2006 unpublished) indicates nocturnal insects' essential activities are disturbed by lights. This study found that ultraviolet lights are the most attractive to nocturnal beetles, sodium vapor lights are the least attractive, and that ABB are more affected by light than other species of nocturnal carrion beetles. Lighting required for proposed Facilities Master Plan projects could affect ABB activities in the immediate area, but the potential impacts would be reduced or avoided by adhering to the lighting guidelines presented in the ABB Conservation Plan (CMTC 2010). These guidelines include utilizing sodium vapor bulbs with shades for all outdoor lighting on new facilities expected to be utilized during nighttime hours, excluding those within the cantonment area. Lighting guidelines would be considering during final project design for all projects requiring lighting (see Section 2.2.1), such as the stadium lighting and control tower entry door lighting for the Drive Track and Skid Pad, the parking lot lighting for the Multi-Use Administration and Classroom Building parking lot, and the building lighting to illuminate entry doors. All indoor and outdoor lights would utilize the lowest wattage possible and be deactivated when unoccupied.

A 2011 Biological Opinion issued by the USFWS regarding military training, forestry, and wildlife management activities at Fort Chaffee determined that such actions could result in the following direct and indirect adverse effects to ABB (USFWS 2011):

- Direct effects from use of pesticides or herbicides;
- Direct effects from soil disturbance during construction and maintenance activities which could uncover ABBs, exposing them to predation, adverse environmental conditions, or crushing by equipment;
- Direct effects from use of heavy equipment compacting soils and destroying ABB brood chambers, crushing individuals, or prohibiting re-emergence;
- Indirect effects from creation of uniform habitats and subsequent reduction in available suitable carrion; and
- Indirect effects from competition for carrion from species that thrive along edge habitats or are attracted by urban encroachment.

Adverse effects to the ABB from construction and operation of the Proposed Action could occur in undisturbed areas of ABB habitat, similar to the potential adverse effects described above. Fort Chaffee mapping indicates 8 of the 12 proposed projects encompass some ABB habitat, however, 5 of these projects occur entirely within previously disturbed and developed sites (see Table 3.2-1). In order to avoid adverse effects to the ABB, NNSA and Fort Chaffee would comply with the 2011 Biological Opinion. This includes (USFWS 2011):

- Compliance with the following required terms and conditions:

- Implementation of the ABB Conservation Plan
- Conduct annual surveys for the ABB
- When recontouring disturbance areas, set aside topsoil then redistribute across newly level ground to maintain soil integrity
- Monitor land use trends and habitat conditions on an annual basis to track cumulative effects of land alteration and disturbance
- Do not change habitat on a wide scale

- Implementation of the following conservation recommendations:
  - Plan support activities in a manner that limits impacts to the ABB and its habitat
  - Plan expansion of improved facilities for those areas already impacted on the installation
  - Design disturbances and developments to avoid fragmenting native habitat
  - Avoid excessive use of chemicals from mid-May to September
  - Wildlife and forestry management practices should provide habitat that is preferred by the ABB and that provides potential carrion. Areas of hardwoods and native grasslands should be protected and increased whenever possible

Interior Least Tern (ESA). While the interior least tern is known to forage along the Arkansas River, the closest project associated with the Proposed Action is located at the LSS site, which is over 2.7 miles away. As previously stated, nesting least terns do not occur on Fort Chaffee. Therefore, there would be no adverse effects to least tern habitat as a result of the Proposed Action.

Northern Long-eared Bat (ESA). Construction activities could result in adverse effects to the threatened northern long-eared bat. This species utilizes roost trees throughout its active (non-hibernating) period of the year. Avoiding the removal of potential roost trees measuring at least 3 inches diameter at breast height between April 1 and November 30 would reduce or avoid these potential effects. Furthermore, Fort Chaffee would comply with all conservation measures described within the *Informal Consultation and Management Guidelines for the Northern Long-Eared Bat Involving Ongoing Operations on Army National Guard Property* (ARNG 2015). As such, impacts to northern long-eared bat would be negligible.

Bald Eagles (Bald and Golden Eagle Protection Act). Should any bald eagle nests be found within the ROI, the following guidelines established by the USFWS (USFWS 2018) would be followed during construction to minimize adverse effects to bald eagles:

- Maintain a buffer between proposed construction activities and active bald eagle nests. If the proposed construction includes the emplacement of linear utilities and the nest is visible from the site, this buffer should be at least 660 feet wide. This buffer should be at least 330 feet wide if the nest is not visible from the site. If a similar activity is currently ongoing within the preferred buffer distance, the proposed construction may maintain a similar buffer as the existing, tolerated activity.
- Should construction occur within the recommended 660- or 330-foot wide buffer due to the existing presence of a similar activity, all clearing, construction, and landscaping activities would be limited to outside of the bald eagle nesting season (i.e., such activities should occur between early August and mid-July).
- Maintain an established landscape buffer to screen an active nest from the Proposed Action.

According to the installation's INRMP, military training activities in the vicinity of a known bald eagle nest would begin after July, after the species' nesting season of December 15 through June 30 (FCJMTC 2014). Therefore, no adverse effects to the bald eagle are anticipated from operations.

State Protected Species

Construction activities could result in minor effects to the state-listed ornate box turtle and northern scarlet snake due to habitat loss through soil compaction and direct mortality from movement of heavy vehicles. As discussed in Section 3.2.1, ornate box turtles inhabit prairie grassland, pasture, field, sandhill, and open woodland habitats; these habitat types are not expected to be affected by construction and operation of the proposed projects. Northern scarlet snakes inhabit forests and woodlands and adjacent open areas. It is possible that clearing trees required for construction of the proposed Range 13 Improvements and the Drive Track and Skid Pad could result in minor adverse effects to this species.

3.3 NOISE

3.3.1 Affected Environment

3.3.1.1 Noise Overview

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, distance between noise source and receptor, receptor sensitivity, and time of day. Noise is often generated by activities essential to a community's quality of life, such as construction or vehicular traffic.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and sensed by the human ear.
Noise is defined as any unwanted sound. The human ear experiences sound as a result of pressure variations in the air.

Sound varies by both intensity and frequency. The physical intensity or loudness level of noise is expressed quantitatively as the sound pressure level. Sound pressure levels are defined in terms of decibels (dB), which are measured on a logarithmic scale. Sound can be quantified in terms of its amplitude (loudness) and frequency (pitch). Frequency is measured in hertz, which is the number of cycles per second. The typical human ear can hear frequencies ranging from approximately 20 hertz to 20,000 hertz. Typically, the human ear is most sensitive to sounds in the middle frequencies where speech is found, and is less sensitive to sounds in the low and high frequencies. A-weighted sound level in decibels (dBA) approximates this frequency response to express accurately the perception of sound by humans.

The adjusted scales are useful for gauging and comparing the subjective loudness of sounds to humans. The threshold of perception of the human ear is approximately 3 dB. A 5-dB change is considered to be clearly noticeable to the ear, and a 10-dB change is perceived as an approximate doubling (or halving) of the noise level (MPCA 1999). Table 3.3-1 presents a list of sounds encountered in daily life and their approximate levels in dBA.

Table 3.3-1. Perceived Change in Decibel Level

Noise Level (dBA)	Description	Typical Source
140	Threshold of pain	--
125	Uncomfortably loud	Automobile assembly line
120	Uncomfortably loud	Jet aircraft
100	Very loud	Diesel truck
80	Moderately loud	Motor bus
60	Moderate	Low conversation
40	Quiet	Quiet room
20	Very quiet	Leaves rustling

Source: Liu and Lipták 1997
dBA = A-weighted sound level in decibels

Ambient or background noise is a combination of various sources heard simultaneously. Calculating noise levels for combinations of sounds does not involve simple addition, but instead uses a logarithmic scale

(HUD 1985). As a result, the addition of two noises, such as a garbage truck (100 dBA) and a lawn mower (95 dBA) would result in a cumulative sound level of 101.2 dBA, not 195 dBA.

Noise levels decrease (attenuate) with distance from the source. The decrease in sound level from any single noise source normally follows the "inverse square law." That is, the sound level change is inversely proportional to the square of the distance from the sound source. A generally accepted rule is that the sound level from a stationary source would drop approximately 6 dB each time the distance from the sound source is doubled. The sound level from a moving "line" source (e.g., a train or vehicle) would drop 3 dB each time the distance from the source is doubled (USDOT 2018).

Barriers, both manmade (e.g., sound walls) and natural (e.g., forested areas, hills, etc.) may reduce noise levels, as may other natural factors, such as temperature and climate. Standard buildings typically provide approximately 15 dB of noise reduction between exterior and interior noise levels (USEPA 1978). Noise generated by stationary and mobile sources has the potential to impact sensitive noise receptors, such as residences, hospitals, schools, and churches. Persistent and escalating sources of sound are often considered annoyances and can interfere with normal activities, such as sleeping or conversation, such that these sounds could disrupt or diminish quality of life.

3.3.1.2 Noise Regulations

Noise Control Act of 1972 (Public Law 92-574). The Noise Control Act of 1972 (42 USC 4901) directs Federal agencies to comply with applicable Federal, State, interstate, and local noise control regulations. The primary responsibility of addressing noise pollution has shifted to State and local governments. In 1974, the U.S. Environmental Protection Agency (USEPA) published its document entitled *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin on Safety*, which evaluated the effects of environmental noise with respect to health and safety (USEPA 1974). The document provides information for State and local agencies to use in developing their ambient noise standards. As set forth in the publication, the USEPA provided information suggesting that an equivalent sound level over 24 hours ($L_{eq(24)}$) of 70 dB is the level above which environmental noise could cause hearing loss if heard consistently over several years. A day-night average sound level (L_{dn}) of 55 dB outdoors and 45 dB indoors is the threshold above which noise could cause interference or annoyance (USEPA 1974).

Army Regulation 200-1 Noise Policy. To comply with the Noise Control Act, the Army has established a noise policy as part of the Army Regulation 200-1. The major goals of the Army's noise policy are to:

- Control operational noise to protect the health and welfare of people, on- and off-post, affected by all Army-produced noise, including on- and off-post noise sources;
- Reduce community annoyance from operational noise to the extent feasible, consistent with Army training and material testing mission requirements; and
- Actively engage local communities in land use planning in areas subject to high levels of operational noise and a high potential for noise complaints.

The Army's noise policy establishes noise criteria for land use compatibility planning that are specific to aviation sources, impulsive military sources such as artillery, and small arms firing ranges.

Army Regulation 200-1 defines recommended noise limits from Army activities for established uses of land with respect to environmental noise. Three noise zones are defined in the regulation:

- Zone I: Relatively quiet noise environment. Acceptable for housing, schools, medical facilities, and other noise-sensitive land uses.

- Zone II: Moderately loud noise environment. Normally not recommended for housing, schools, medical facilities, and other noise-sensitive land uses.
- Zone III: Loud noise environment. Not recommended for housing, schools, medical facilities, and other noise-sensitive land uses.

The metric used in defining noise zones for small-arms ranges is peak level (dBP). Peak level is the maximum instantaneous sound level that occurs during an acoustic event. In the case of small arms, it is the maximum instantaneous sound level made by a given weapon at a given distance. Peak level for small-arms weapons is strongly correlated with community annoyance (Hede 1982). Other metrics used by the Army to quantify the noise environment at Army installations are the C-weighted and A-weighted day-night average sound levels (CDNL and ADNL). Table 3.3-2 outlines noise limits and zones for land use planning for small-arms firing, aircraft, and large-caliber weapons firing and demolition operations.

Table 3.3-2. Noise Limits for Noise Zones in Decibels

Noise Zone	General Level of Noise	Small-arms PK 15(met)	Aviation ADNL	Large-Caliber Weapons (> 20-mm) and Demolition CDNL	Recommended Uses
I	Low	< 87	< 65	< 62	noise-sensitive land uses acceptable
II	Moderate	87–104	65–75	62–70	noise-sensitive land uses normally not recommended
III	High	> 104	> 75	> 70	noise-sensitive land uses not recommended

Source: U.S. Army 2007.
ADNL=A-weighted day-night average sound level; CDNL=C-weighted day-night average sound level; dBC=C-weighted decibels; mm=millimeter; PK 15(met)=Single event peak level exceeded by 15 percent of events.

It should be emphasized that these zones, which are often shown graphically as contours on maps, are not discrete lines that sharply divide loud areas from land largely unaffected by noise. Instead, they are planning tools that depict the general noise environment around the post based on typical activities. Areas beyond the three zones can also experience levels of appreciable noise depending upon training intensity or weather conditions.

Fort Smith Municipal Code includes a noise ordinance under Chapter 16 Nuisances, Article II Noise. It stipulates maximum noise levels during daytime and nighttime for particular land use zone. Noise levels at residential zones must not exceed 60 dBA during daytime and 55 dBA during nighttime (Fort Smith 2018). Since NNSA primarily operates within Fort Chaffee, the local ordinance is not applicable within the installation but would be considered regarding off-post sensitive noise receptors.

3.3.1.3 Existing Noise Environment

The following noise generating sources occur at Fort Chaffee:

- Small caliber weapons (.50 caliber and below)
- Demolition and large caliber weapons (20 mm and greater)
- Aviation activity

The primary stationary noise sources at Fort Chaffee include the impact ranges, the jet aircraft bombing range, electric generators, and air conditioners (ARARNG 2009). Primary mobile noise sources at Fort Chaffee include artillery weapons, helicopters, Air Force aircraft, Air Force bombing training activities, vehicular traffic, rail operations, and heavy equipment operations (ARARNG 2009).

The ARARNG Statewide Operational Noise Management Plan provides Noise Zone contours for Fort Chaffee. The noise from small caliber weapons operations at Fort Chaffee is segregated between the ranges in the far west of the training center and those ranges on the eastern half of the training center surrounding the impact area. The Noise Zones on the western side are relatively contained to the installation. There are no incompatible land uses with small caliber operations in this region of Fort Chaffee (ARARNG 2012).

Noise Zones due to demolition and large caliber training primarily occurs in the eastern portion of the Installation. Some ranges in the western portion of the Installation have the training, resulting in a portion of Zone II and III occurring outside of the Installation boundary. The Noise Zones from large caliber weapons indicate that annual average noise levels are mostly compatible with the surrounding environment.

Aircraft noise at Fort Chaffee includes rotary-wing and fixed-wing aircraft entering and exiting the airspace, primarily to utilize the aerial gunnery ranges located on the eastern portion of the training center. There is no airfield on Fort Chaffee. The ammunition expended at these ranges is generally of the small caliber or inert/practice variety (larger munitions are occasionally authorized). Thus, the operating noise from the aircraft itself is the primary noise produced.

3.3.2 No Action – Environmental Consequences

Under the No Action Alternative, the existing noise environment would remain unchanged. This alternative would not involve any construction of facilities or changes to training or activities conducted by NNSA at Fort Chaffee, and such activities would continue as currently conducted at Fort Chaffee and off-site facilities.

3.3.3 Proposed Action – Environmental Consequences

Under the Proposed Action, short-term and long-term, less-than-significant adverse impacts to the local noise environment would occur. Impacts would include short-term construction noise and long-term noise from training operations.

Short-term, minor to moderate impacts would occur during construction. Construction activities would cause temporary increases in ambient noise levels in the immediate vicinity of the construction sites. Construction noise levels are rarely steady in nature, but instead fluctuate depending on the number and type of equipment in use at any given time. There would be times when no large equipment is operating, and noise would be at or near ambient levels. In addition, construction-related sound levels would vary by distance.

On-site construction noise would mainly occur from site preparations, clearing and grading, demolition, construction of new facilities, vehicle traffic, and other associated construction activities including the use of heavy-duty construction equipment (e.g., trucks, backhoes, excavators, front end loaders, rollers, graders, etc.). Table 3.3-3 presents typical construction equipment (mobile and stationary) and the corresponding noise levels.

Table 3.3-3. Estimated Construction Noise from Construction Activities

Equipment	Typical Noise Level at 50 feet (dBA)	Typical Noise Level at 500 feet (dBA)	Typical Noise Level at 1,000 feet (dBA)	Typical Noise Level at 1,500 feet (dBA)
Front Loader	80	60	54	50
Backhoe, excavator	80	60	54	50
Roller	85	65	59	55
Grader	85	65	59	55
Scraper	85	65	59	55
Truck	84	64	58	54

Source: Lamancusa 2009; USDOT 2018
dBA = A-weighted decibel

In general, average equivalent noise levels from typical construction sites range from 79 to 89 dBA at 50 feet (Bolt et al. 1971). Construction noise levels fluctuate depending on the type, number and duration of use of heavy equipment for construction activities, and differ by the type of activity, distance to noise-sensitive uses, existing site conditions (vegetation to buffer sound), and ambient noise levels. With multiple items of construction equipment operating concurrently, noise levels could be relatively high during daytime periods at locations within several hundred feet of active construction sites. Accounting for the concurrent use of the construction equipment, it is conservatively estimated that noise levels could be up to approximately 90 dBA at 50 feet. Combined construction noise reduces to approximately 64 dBA at 1,000 feet. Considering all proposed project locations, the closest noise-sensitive receptor that is located outside of the installation boundary (off-post) is the mixed-use (office/retail) development southeast of the Historic District business which is approximately 820 feet from the Carpentry Shop construction site at the LSS area. The closest off-post residential property is approximately 5,100 feet from the LSS area. The closest off-post noise-sensitive receptor to the TRACOM area projects is the golf course which is approximately 1,040 feet northwest of the PT/IUF Facility Expansion.

Using typical noise reductions over a distance, this analysis conservatively estimated a combined construction level of approximately 90 dBA at 50 feet would reduce to approximately 66 dBA at 820 feet at the mixed use development (closest off-post receptor), 64 dBA at 1,040 feet at the golf course, and 50 dBA at 5,100 feet at the closest residential receptor. Some of the proposed projects would be located on adjacent property to on-post receptors, including personnel that utilize the office buildings and the existing dormitory at Fort Chaffee. For example, the construction area of the Multi-Use Administration and Classroom Building – South Option would occur within the immediate vicinity of the existing dormitory buildings (see Figure 2-3). Such close receptors could experience moderate noise impacts during construction, but impacts would be short term and would diminish as construction ends. Typically, construction would occur during the daytime and nighttime construction would only occur under specific conditions. Potential impacts would be managed by construction BMPs.

Considering the proposed timeline and schedule for the proposed projects, several projects could undergo construction at the same time. For example, several projects in the TRACOM area are projected to start in FY 2021 (see Table 2-1). If several projects involve concurrent construction, NNSA would coordinate with construction contractors to reduce potential impacts. NNSA would finalize the timeline for the proposed project once design and engineering are complete.

The following standard BMPs would be implemented by the NNSA, as appropriate, to limit noise impacts during construction. Stationary equipment and material transportation routes would be located as far away from sensitive receivers as possible. Equipment would be operated per manufacturer's recommendations, and noise-generating heavy equipment would be shut down when not needed. Construction personnel would be directed to operate equipment to reduce noise to the practicable (e.g., speed restrictions, retarder

brake restrictions, engine speed restrictions, etc.). These noise-reducing measures would be briefed to the personnel responsible for implementing these activities. The on-site construction manager would be responsible to bring noise issues, if they arise, to NNSA for resolution. This information would be incorporated into construction contracts.

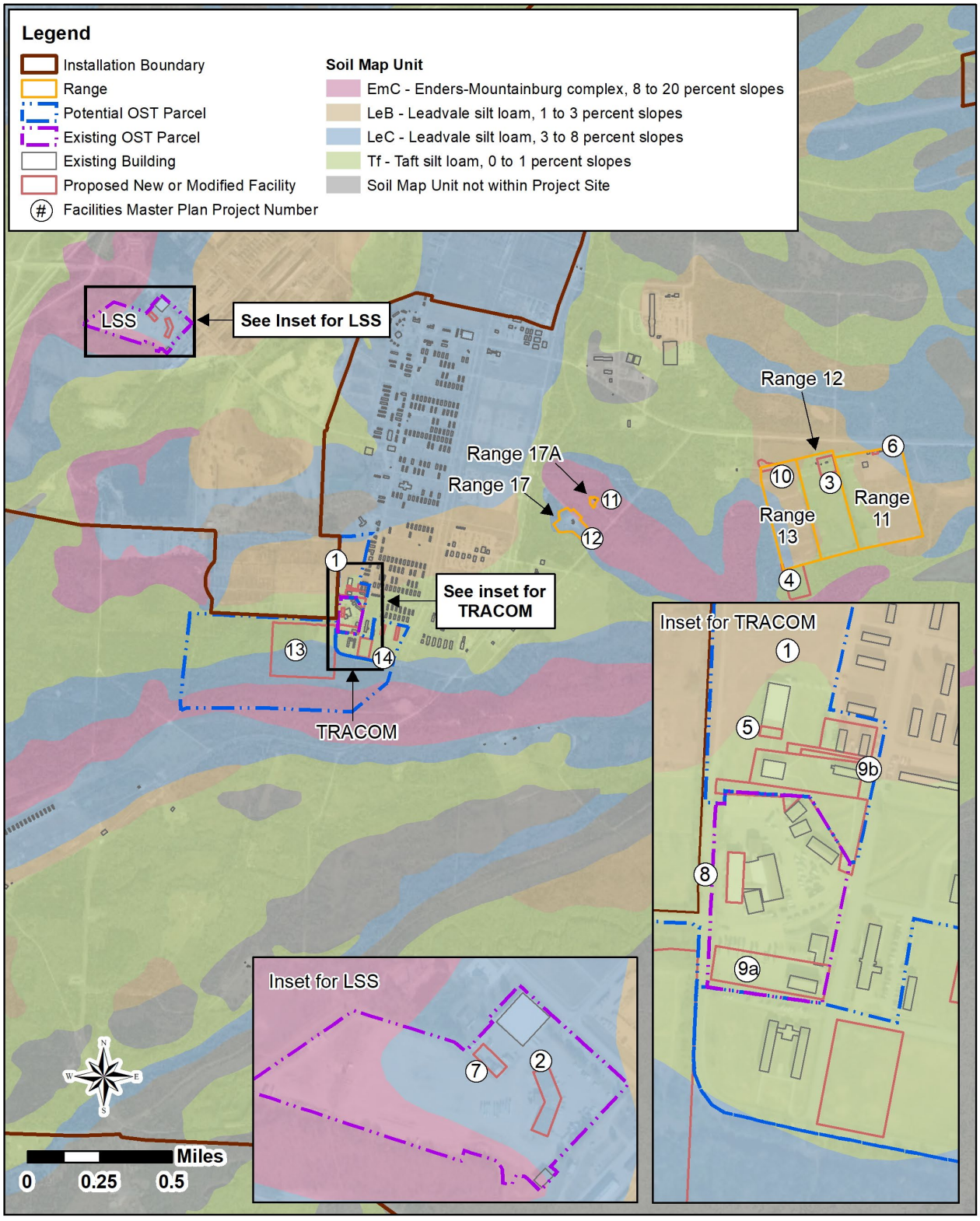
Long-term, negligible to minor adverse impacts would occur due to operation of the proposed projects. Noise due to the Facilities Master Plan projects is not anticipated to change the existing noise environment and contours. The proposed projects at Ranges 12, 13, 17, and 17A would involve noise-generating activities including the use of ammunition. Ranges 12 and 13 are located within Noise Zone III, and Ranges 17 and 17A are within Noise Zone II (ARARNG 2012). Although the proposed projects would cause a minor increase in the amount of training at the ranges, the type of training proposed would be consistent with existing noise generation and zones. The proposed projects that involve ammunition training would be located far enough from the installation boundary to preclude the generation of noise levels off the installation that are incompatible with off-installation land uses; therefore, negligible impacts to the noise environment would be expected from range training activities. Noise generation from the Drive Track and Skid Pad would involve vehicular noise during training operations, but it would not be greater than the typical military training operations conducted on Fort Chaffee. Other Facilities Master Plan projects that involve office or building facilities would generate negligible noise from employee vehicular traffic. Potential impacts would be managed by BMPs. To minimize adverse noise impacts resulting from proposed training operations, NNSA would continue to implement the Statewide Operational Noise Management Plan (ARARNG 2012) and if warranted, work with the Fort Smith zoning and planning departments to address potential land use incompatibilities and potential noise issues for off-post receptors.

3.4 SOILS

3.4.1 Affected Environment

The most prevalent soils across Fort Chaffee include Leadvale silt loams, those of the Enders-Mountainburg complex, Taft silt loam, Mountainburg sandy loam, and Mountainburg stony sandy loam. Together, these soils encompass approximately 50,800 acres of the installation (USDA NRCS 2018a). These common soils, described below and depicted in Figure 3.4-1, are also identified within the proposed project areas (USDA NRCS 2018b).

- Enders-Mountainburg complex, 8 to 20 percent slopes: Individually, soils of the Enders series are well-drained, very slowly permeable, and formed in loamy and clayey residuum weathered from shale. They most commonly underlie forests and may be found in landscapes ranging from flat to mountain tops, ridges, slopes. Mountainburg soils are also well-drained but formed from gravelly and stony, loamy residuum weathered from sandstone and siltstone. These soils have a high hydraulic conductivity and have a moderately rapid permeability.
- Leadvale silt loam, 1 to 3 percent slopes and 3 to 8 percent slopes: Leadvale soils are deep, moderately well drained, and have slow or moderately slow permeability. They are formed in silt materials in uplands or alluvium from uplands underlain by shale and siltstone. These soils are mostly found on toe slopes, benches, and terraces. Many areas with Leadvale soils have been cleared for agricultural use, though other areas support forests.
- Taft silt loam, 0 to 1 percent slopes: Taft soils are very deep and somewhat poorly drained with slow permeability. They are formed in a silty mantle of loess or alluvium and the underlying residuum of limestone or shale. The soils are mostly found on upland flats, stream terraces, and in depressions. Native vegetation in areas of Taft soils includes hardwood forest, though most of such areas have been cleared for agricultural use.



Acronyms: LSS = Logistics Support Site; OST = Office of Secure Transport; TRACOM = Training Command

Figure 3.4-1. Soil Found within the Proposed Project Areas

3.4.2 No Action – Environmental Consequences

Under the No Action Alternative, existing soil resources would remain unchanged. This alternative would not involve any construction of facilities or changes to training or activities conducted by NNSA at Fort Chaffee, and such activities would continue as currently conducted at Fort Chaffee and off-site facilities.

3.4.3 Proposed Action – Environmental Consequences

Overall impacts to soil resources from construction of the Proposed Action would be minor. Direct impacts to soils from construction would include soil compaction and damage to soil structure from construction equipment and grading activities. Clearing of proposed construction areas would also remove protective vegetative cover and potentially increase soil erosion. Soil erosion could result in the loss of topsoil from its original location through wind and/or water erosion and indirectly increase the sediment levels of surface water through stormwater runoff. Soil erosion and loss of or damage to topsoil can also impair revegetation which is crucial for soil stabilization and restoration of temporarily disturbed sites.

The effects of wind erosion would be reduced by using common dust suppression techniques, such as spraying the ground with water and revegetating disturbed areas with approved native plant species. Construction BMPs to reduce soil erosion from water include installation of sediment barriers (e.g., silt fencing, straw or hay bales and sand bags), temporary slope breakers, and mulching. Such measures would be implemented wherever soil is exposed, steep slopes are present, or erosion potential is high.

Following construction, the Proposed Action would result in a permanent loss of approximately 12.8 acres of soil resources due to construction of new structures and associated facilities (i.e., parking area). Section 3.5, Water Resources, provides additional details regarding the potential for increased stormwater runoff.

During construction and operation, the potential exists for vehicles and equipment to release petroleum, oil, and lubricants (POLs) and contaminate soil. Fort Chaffee Regulation 385-63-1 includes procedures should an accidental POL spill occur, and this regulation must be followed by all units training on Fort Chaffee. No Spill Prevention, Control, and Countermeasure (SPCC) Plan currently exists for the DOE Limited Area. NNSA would develop and implement a SPCC Plan to cover the Limited Area and Drive Track and Skid Pad to reduce or avoid potential adverse impacts from a release of POLs. Fort Chaffee standard spill prevention and, if required, spill response procedures would be used during construction, maintenance activities, and training operations. Overall impacts to soil resources from operation of the proposed Facilities Master Plan projects would be negligible, as proposed activities would occur inside buildings, on paved surfaces, or within existing ranges. Potential effects could arise from the continued or increased introduction of Munitions Constituents of Concern (MCOCs) into the soils at ranges, but these would be negligible due to the current training activities at these ranges. Fort Chaffee would continue to manage soil contaminated with lead or other MCOCs in accordance with current practices.

3.5 WATER RESOURCES

3.5.1 Affected Environment

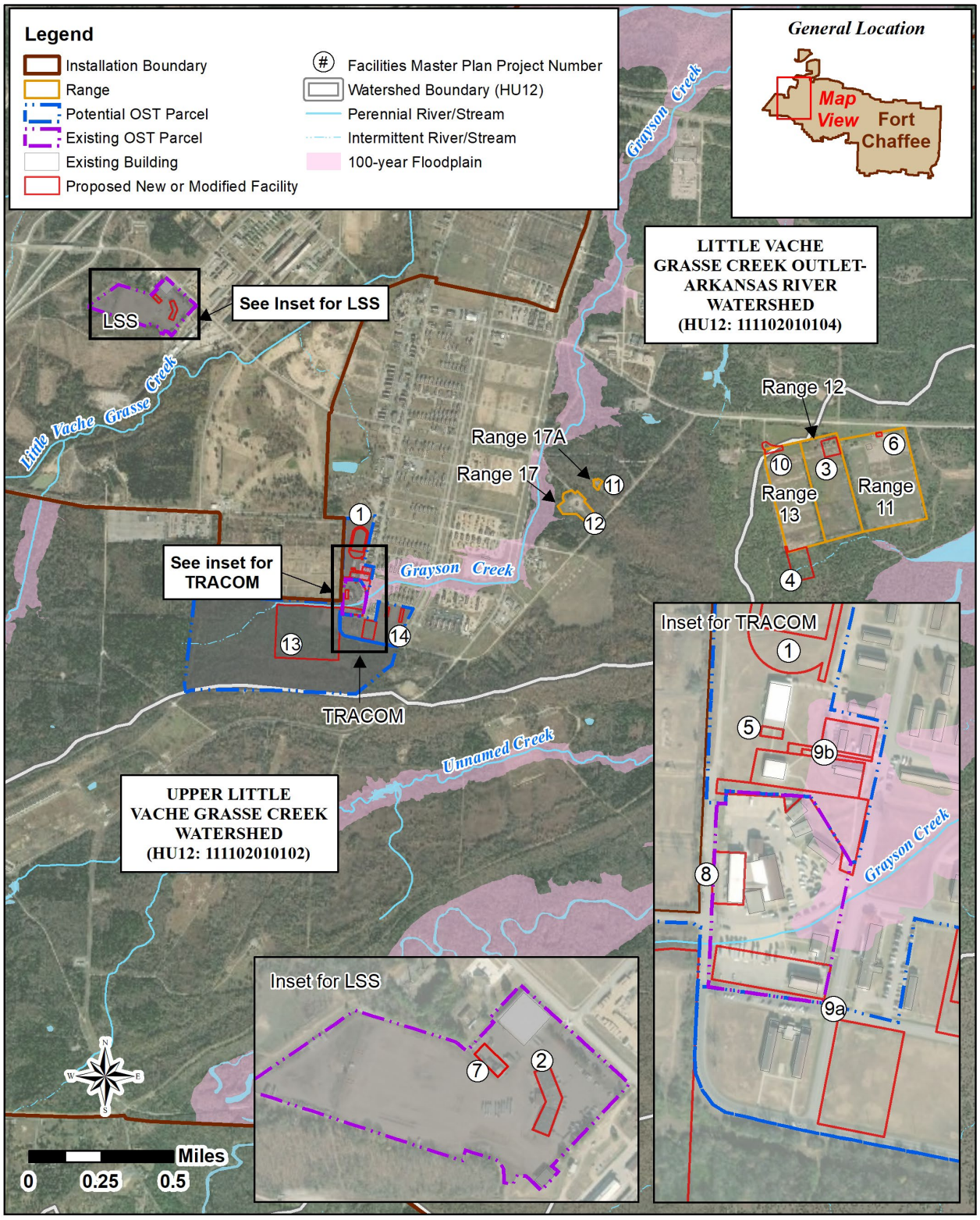
Table 3.5-1 and Figure 3.5-1 provide an overview of the water resources present at each of the Facilities Master Plan project sites. Sections 3.5.1.1 and 3.5.1.2 present an overview of surface water and water quality and floodplains.

Table 3.5-1. Water Resources at Fort Chaffee Master Plan Project Sites

Project[a]	Surface Water	Floodplain
3. Live-Fire Shoot House	N/A	N/A
4. Range 13 Improvements	514.2 feet of an unnamed intermittent stream cross the project footprint.	N/A
5. Physical Training / Intermediate Use of Force Expansion	N/A	N/A
6. Range 11 Classroom	N/A	N/A
7. Carpentry Shop Consolidation	N/A	N/A
8. Multi-Purpose Dye Marking Cartridge Facility	N/A	N/A
9a Multi-Use Administration and Classroom Building – South Option	451.4 feet of perennial stream (Grayson Creek) occur within the project footprint. Of which, 212.1 feet are channelized as an open drainage swale and 239.3 feet are underground tunnel or culverted.	0.4-acre construction footprint located within 100-year floodplain.
9b. Multi-Use Administration and Classroom Building – North Option	N/A	1.7-acre construction footprint located within 100-year floodplain.
10. Multi-Use Elevated Shooting Platform	N/A	N/A
11. Range 17A Breaching Pad/Method of Entry House	N/A	N/A
12. Range 17 Upgrade	N/A	N/A
13. Drive Track and Skid Pad	96.6 feet of perennial stream (Grayson Creek) occur within the project footprint. The stream would be crossed by the access road proposed to connect the site to Arkansas Boulevard and an underground communications line that would cross Grayson Creek along the east side of Hospital Street.	N/A
14. OST Dormitory Replacement	N/A	N/A

a. The Facilities Master Plan Projects 1 (All-Weather Running Track) and 2 (Add Offices to LSS Warehouse) are addressed in Section 3.6, Cumulative Effects.

N/A = not applicable (resource is not present within or adjacent to the project boundary).



Acronyms: HU = Hydrologic Unit; LSS = Logistics Support Site; OST = Office of Secure Transport; TRACOM = Training Command

Figure 3.5-1. Surface Water and Floodplains

3.5.1.1 Surface Water and Quality

Surface water systems are typically defined in terms of watersheds. A watershed divides the landscape into hydrologically defined areas in which the biotic and abiotic components interact. The watershed boundary generally follows the drainage divide or the highest ridgeline around the stream channels, which meet at the bottom or lowest point of the land where water flows out of the watershed, commonly referred to as the mouth of the waterway. Any activity that affects water quality, quantity, or rate of movement at one location within a watershed has the potential to affect the characteristics of locations downstream. The proposed project falls within the Little Vache Grasse Creek – Arkansas River Watershed (hydrologic unit (HU) 10: 1111020101). Figure 3.5-1 depicts the water features in the project areas including the HU12 watershed level.

As presented in Table 3.5-1, surface waters exist within or adjacent to the proposed locations of the Drive Track and Skid Pad, Range 13 Improvements, and Multi-Use Administration and Classroom Building – South Option. Grayson Creek is crossed by the proposed Drive Track and Skid Pad and the Multi-Use Administration Building and Classroom – South Option. The Drive Track and Skid Pad would maintain a 25-foot buffer from Grayson Creek, except where utility and infrastructure crossings would be required (e.g., access road and underground communication line). Grayson Creek traverses through the Multi-Use Administration and Classroom Building – South Option site via an existing culvert and drainage swale. Grayson Creek flows into Little Vache Grasse Creek, which flows into Vache Grasse Creek, which then empties into the Ozark Lake/Arkansas River (see Figures 2-3 and 3.5-1). The Range 13 Improvement site includes an unnamed, intermittent stream.

Grayson Creek (a perennial stream) and its tributaries serve as jurisdictional Waters of the United States because their flow eventually connects to a navigable waterway. This places Grayson Creek and its tributaries under the jurisdiction of the USACE and subject to the regulations of the Federal CWA. Similarly, the unnamed intermittent stream in Range 13 is a jurisdictional Water of the United States as it connects to the Mildenhall swamp, which flows into Vache Grasse Creek and eventually into Ozark Lake/Arkansas River. In accordance with the CWA, unavoidable disturbances to jurisdictional Water of the United States require a permit from the USACE Little Rock District.

The CWA also requires that States report on water quality of their waters. Through ambient water quality monitoring, States determine if a waterbody satisfies the water quality criteria associated with each State's designated uses. Section 401 of the CWA requires applicants for a Federal license or permit provide a certification that any discharges from the facility will comply with the act, including State-established water quality standard requirements. When a State-defined designated use is not met or supported by the waterbody, it is deemed impaired. Designated uses are defined on a state-by-state basis and documented according to the reporting requirements of CWA Sections 303 and 305. Grayson Creek, Little Vache Grasse Creek, and Vache Grasse Creek do not appear in Arkansas' 2018 draft list of impaired waterways, as defined by CWA Section 303(d), and are therefore not considered impaired (ADEQ 2018).

Existing live-fire training exercises have the potential to result in metal MCOCs contaminating local surface water resources at Fort Chaffee. The MCOCs that could be found at small arms ranges include lead, antimony, copper, and zinc. A 2017 assessment of MCOCs at Fort Chaffee ranges found that while potential surface water pathways exist at several of the ranges, including Range 13, "there is no unacceptable risk to off-range human and/or ecological receptors from potential sources within the operational footprint at FCMTC. Additionally, implementation of operational range BMPs will reasonably ensure reduced MCOC migration from the operational footprint to off-range human and ecological receptors" (PIKA-Malcolm Pirnie JV, LLC 2018). For Range 13, these operational range BMPs include back berm maintenance and rotating firing lane use to decrease the extent and effects of erosion on the back berm.

3.5.1.2 Floodplains

Floodplains are areas of land adjacent to rivers and streams that convey overflows during flood events. The Federal Emergency Management Agency (FEMA) defines a floodplain as being any land area susceptible to being inundated by water from any source (FEMA 2017). FEMA prepares Flood Insurance Rate Maps that delineate flood hazard areas, such as floodplains, for communities. These maps are used to administer floodplain regulations and to reduce flood damage. Typically, these maps indicate the locations of 100-year floodplains, which are areas with a 1 percent chance of flooding occurring in any single year. EO 11988, Floodplain Management, states that actions by Federal agencies are to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplain development wherever there is a practicable alternative. 10 CFR 1022 establishes policy and procedures for discharging DOE's responsibilities under EO 11988.

According to FEMA mapping, the proposed construction footprint for the Multi-Use Administration and Classroom Building – South Option would occur in approximately 0.4 acre of the 100-year floodplain of Grayson Creek and would involve conversion of the existing drainage swale to a culvert. The proposed construction footprint for the North Option would occur in approximately 1.7 acres of floodplain and would involve constructing permanent project features within the 100-year floodplain of Grayson Creek (0.4 acre for the building and 1.0 acre for the associated parking, sidewalk, and concrete areas).

3.5.2 No Action – Environmental Consequences

Under the No Action Alternative, existing water resources would remain unchanged. This alternative would not involve any changes to training or activities conducted by NNSA at Fort Chaffee, and such activities would continue as currently conducted at Fort Chaffee and off-site facilities.

3.5.3 Proposed Action – Environmental Consequences

3.5.3.1 Surface Water and Quality

Potential impacts to water resources from construction and operations of the proposed Facilities Master Plan projects would be minor. Three projects would be located within the vicinity of surface waters that have the potential for adverse effects to the surface water resources. This includes Grayson Creek which is within the Multi-Use Administration and Classroom Building – South Option and the Drive Track and Skid Pad construction footprints, and an unnamed intermittent stream within the Range 13 Improvements construction footprint (see Figure 3.5-1). The Multi-Use Administration and Classroom Building and the Drive Track and Skid Pad projects would result in the permanent loss of 212.1 feet and 66.4 feet of stream, respectively, through culvertization. The Range 13 Expansion would disturb approximately 514.2 feet of an unnamed intermitted stream (see Figures 2-2 and 3.5-1) that would either be diverted, piped underground, or swale (depending on final project design).

Potential permanent and direct impacts to surface water resources from construction activities would include alteration of the streambed and bank structure, and reduction or alteration of habitat. Indirect impacts to perennial streams (e.g., Grayson Creek) would include increased water temperature and decreased water quality from a rise in turbidity due to streambank and streambed disturbance and sedimentation from the construction site. Overall adverse impacts from stream disturbance would be minor since Grayson Creek has been previously disturbed in the locations of the Multi-Use Administration and Classroom Building and near the Drive Track and Skid Pad. Within the construction footprint of the Multi-Use Administration and Classroom Building – South Option, approximately 239.3 feet of Grayson Creek are already buried underground via culvert and 212.1 feet are already channelized as an open drainage swale; of which, the existing open drainage swale would be converted to a culvert or otherwise covered feature to flow through an underground tunnel. Although the MCOC assessment determined no unacceptable risk to off-range human and/or ecological receptors from use of Range 13, the diversion or

piping the intermittent stream would further prevent off-range migration of MCOCs, indirectly benefiting water quality.

Implementation of BMPs to control erosion, such as the use of silt fences and revegetation of affected areas (see Section 3.4, Soils) and maintaining a 25-foot buffer from surface waters to the construction site would reduce or avoid the erosion of soils from the site or into surface waters. Following construction activities, temporarily disturbed areas would be revegetated using native grasses and forbs to prevent erosion and sedimentation. Additionally, NNSA would coordinate with the USACE Little Rock District during site design for these projects involving a potential direct disturbance to surface waters to reduce adverse effects and adhere to any permit stipulation or mitigation requirements. Construction of the Drive Track and Skid Pad access road to Arkansas Boulevard would permanently impact approximately 66.4 feet of Grayson Creek and could fall under Nationwide Permit 14, Linear Transportation Projects, which applies to road construction projects resulting in the loss of up to 0.5 acre of non-tidal Waters of the United States (USACE 2018). The underground communications line for the Drive Track and Skid Pad would route along the east side of Hospital Street and cross Grayson Creek and utilize an existing crossing.

The Proposed Action would result in minor adverse impacts to stormwater. Construction of the projects would involve ground clearing, excavation, grading, leveling, and construction of structures and parking areas. These activities would disturb soils causing a temporary increase in soil erosion and stormwater runoff. Earth-disturbing activities during construction would be managed to reduce stormwater runoff using control measures and BMPs. BMPs could include covering exposed soils in heavily trafficked areas; placing structural erosion controls where necessary (e.g., silt fences or hay bales); and designating and protecting established/existing vegetation buffer areas (i.e., trees, shrubs, and natural vegetation), to the extent practicable. Additionally, adherence to Arkansas Department of Environmental Quality (ADEQ) stormwater permitting rules and regulations including the Construction Stormwater Permit would control erosion, minimize the potential for sedimentation, disperse stormwater on-site, and reduce the likelihood for petroleum products or other hazardous materials to spill. The ADEQ Construction Stormwater Permit includes Permit ARR150000 for Large Sites (5 acres or more) and Small Sites (1 acre or more but less than 5 acres). The Facilities Master Plan projects with construction areas that are 5 acres or more would require submittal of the following to discharge stormwater under the provisions of ARR150000 Large Site Construction Stormwater Permit: Notice of Intent, a complete Stormwater Pollution Prevention Plan (SWPPP), and the permit fee. The Facilities Master Plan projects with construction areas that are greater than 1 acre but less than 5 acres would be automatically covered by the AR150000 Small Site Construction Stormwater Permit. As a result, NNSA would not be required to send any documentation to ADEQ for the Small Sites and would post the following at the construction site prior to construction: Notice of Coverage, SWPPP, and Inspection Form. The Facilities Master Plan projects that would have construction areas less than 1 acre would not require construction stormwater permitting.

Construction of the Proposed Action would result in an increase in impervious surfaces of up to 12.8 non-contiguous acres, increasing stormwater runoff and reducing infiltration to groundwater. During project design, NNSA would review stormwater management controls (e.g., retention ponds, swales, etc.) at each project site in consideration with each project's increase of impervious surface. Site design would incorporate the appropriate measures to manage stormwater and any potential increases in stormwater runoff from the introduction or increase of impervious surface at the site to minimize impacts. DOE would maintain compliance with stormwater runoff requirements under Section 438 of the Energy Independence and Security Act (EISA) of 2007. The intent of Section 438 of the EISA is to require Federal agencies to develop and redevelop applicable facilities in a manner that maintains or restores stormwater runoff to the maximum extent technically feasible. Development or redevelopment projects involving Federal facilities with a footprint that exceeds 5,000 square feet are required to use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration

of flow. DOE would evaluate each Facilities Master Plan project prior to construction such that mitigation features would be implemented during construction, as applicable.

The potential exists for vehicles to discharge an undetermined volume of POLs during construction and operation of the proposed facilities. Once released, POLs could enter stormwater or surface water and adversely affect aquatic resources. However, such discharges would be minimized through correct and efficient operation of well-maintained equipment. Fort Chaffee Regulation 385-63-1 includes procedures should an accidental POL spill occur, and this regulation must be followed by all units training on Fort Chaffee. No SPCC Plan currently exists for the DOE Limited Area. NNSA plans to develop and implement a SPCC Plan to cover the Limited Area and Drive Track and Skid Pad to reduce or avoid potential adverse impacts from a release of POLs. Fort Chaffee standard spill prevention and if required, spill response procedures, would be used during construction, maintenance activities, and training operations.

3.5.3.2 Floodplains

Only one project has the potential to affect floodplain resources. The Multi-Use Administration and Classroom Building – South Option and North Option involves construction within the 100-year floodplain. As a result, NNSA conducted a floodplain assessment in accordance with 10 CFR 1022 (see Appendix B). The floodplain assessment concludes that placement of paved surfaces (embarkment operations support and surface parking lots) and the siting of the building in the North Option would not cause a detectable change in base flood elevations, and the facilities would not obstruct the flow of flood water as the floodplain within the area is currently developed. The existing elevations and flow paths of the area within the floodplain are not expected to change with any significance and the nature and extent of the flood hazard caused by the proposed project is not expected to change from the present conditions. No effects to lives and property associated with floodplain disturbance are anticipated.

Following construction, temporarily disturbed areas would be restored to their original contours and paved surface areas would be designed to maintain flood elevations. Increases in impervious surfaces would be addressed in site design to minimize stormwater runoff. BMPs would be implemented to reduce construction-related pollutants to stormwater runoff, and to minimize potential for soil erosion in the floodplain during construction of the facility. Spill control measures would be utilized when necessary and spill control kits would be readily available for use at all locations where heavy equipment would be utilized.

Design of the building in the North Option would involve reviewing plans for the structure to be in compliance with FEMA National Flood Insurance Program's Building Standards requirements for nonresidential structures which requires elevating the lowest floor to or above the base flood level. In addition, NNSA would coordinate with the Arkansas Natural Resources Commission Floodplain Management Program to obtain any necessary development permits. The Arkansas Natural Resources Commission Floodplain Management Program requires a separate development permit for any action involving "constructing or substantially improving a structure; placing a mobile home; or mining, dredging, filling, grading, paving, excavating, drilling, and other man-made changes within the flood hazard area." Part of this permitting process involves providing acceptable engineering data showing that there would be no increase in the level of the base (100-year) flood (Arkansas Natural Resources Commission 2003). During project design, NNSA would coordinate with the Arkansas Natural Resources Commission to obtain any necessary permits required for construction within the 100-year floodplain.

3.6 CUMULATIVE EFFECTS

As defined by CEQ, cumulative effects are those that "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" (40 CFR 1508.7). Cumulative effects analysis 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. Cumulative effects may be accrued over time and/or in conjunction with other pre-existing effects from other activities in the area (40 CFR 1508.25); therefore, pre-existing impacts and multiple smaller impacts should also be considered. Overall, assessing cumulative 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.

The NEPA and CEQ regulations require the analysis of cumulative environmental effects of a Proposed Action on resources that may often manifest only at the cumulative level. Cumulative effects can result from individually minor, but collectively significant actions taking place at the same time, over time. As noted above, cumulative 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.

3.6.1 Cumulative Projects

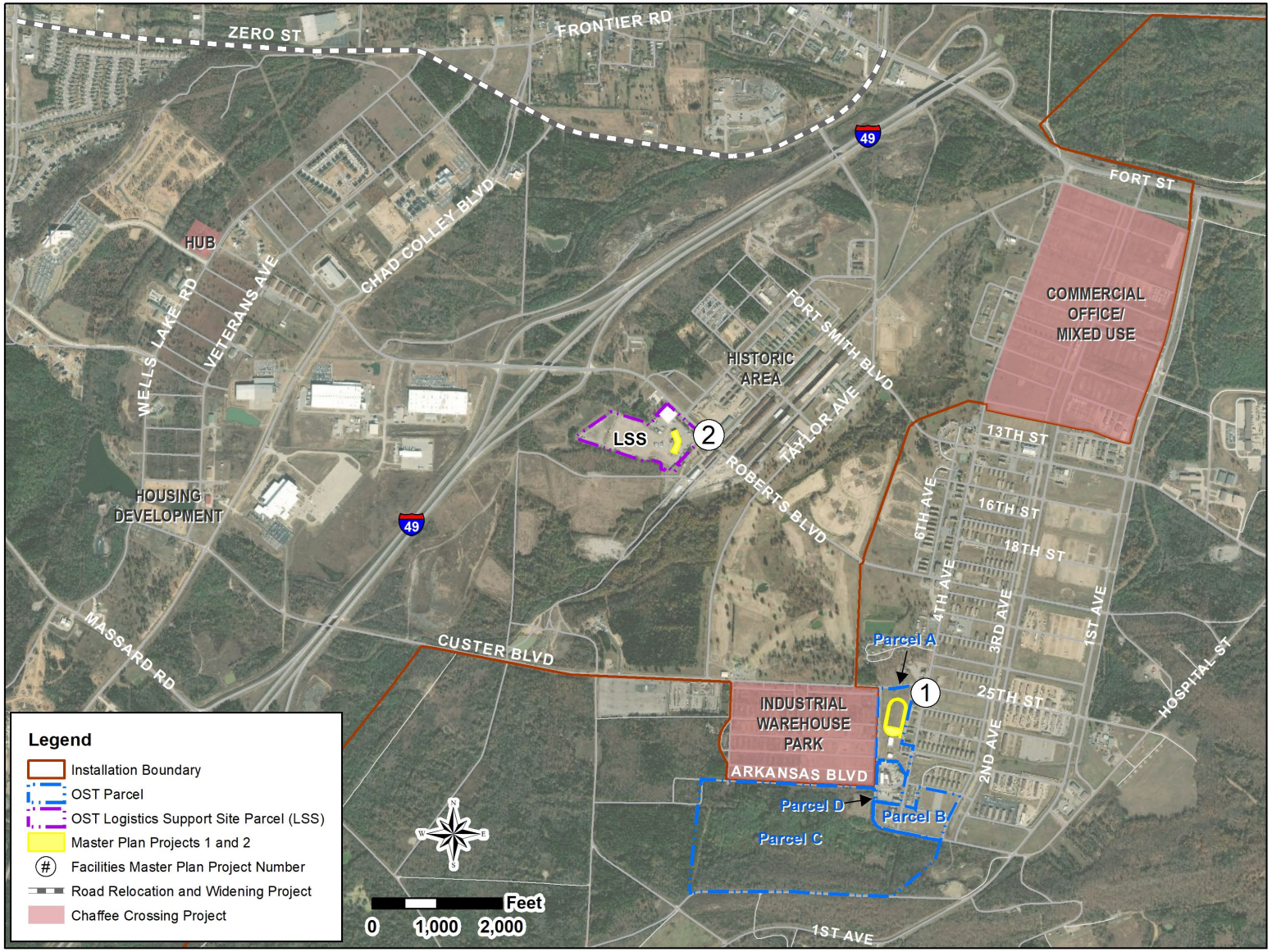
Table 3.6-1 and Figure 3.6-1 present the reasonably foreseeable projects that may have cumulative, incremental impacts in conjunction with the Proposed Action.

Table 3.6-1. Cumulative Projects

Project	Details
OST Projects	
Lease Agreement	OST is currently requesting land through a 25-year real estate lease agreement which will add three areas known as Parcel A (12 acres), Parcel B (13 acres), and Parcel C (122 acres) (USDOE 2018). The parcels contain Facilities Master Plan projects evaluated in this EA, resulting in the associated impacts listed in Table 2-2. These parcels would allow OST to expand their building footprint and meet current and future mission requirements. Cumulative impacts associated with implementation of the 25-year lease agreement are anticipated to be negligible. Depending on future plans and budget availability, OST could plan additional projects within their property at Fort Chaffee, which would be evaluated under a separate NEPA process. Figure 3.6-1 presents the OST lease agreement parcels.
All-Weather Running Track	OST proposes to construct an 5-lane, 400-meter all-weather running track that would occupy approximately 4 acres (see Project 1 in Figure 3.6-1) (USDOE 2018). The in-field would be grass with appropriate drainage and watered with an in-ground sprinkler system. The selected site for the track is currently an open field adjacent to the physical training facility (Building 1779). Construction would begin in in early Spring 2019 and last 4 months. The running track would be used to maintain OST personnel physical fitness and conduct testing. Currently there is no running track, and personnel are forced to run in the roadway. The proposed running track would eliminate safety concerns of mixing vehicular and pedestrian traffic. OST completed a Record of Environmental Consideration (REC) to evaluate potential impacts associated with the proposed running track. The REC determined no impacts to natural or cultural resources. Although the running track is located in an area with ABB preferred vegetation, OST met the requirements of Section 7 of the ESA. All waste materials would be recycled or disposed of in the appropriate facility per ADEQ requirements.

Additional Offices to the LSS Warehouse	OST proposes to construct eight additional offices in Building 542 to provide needed administrative office space for contractors at the LSS (see Project 2 in Figure 3.6-1) (USDOE 2018). Currently, there is a shortage of space and many of the existing offices are retrofitted into shops, storage rooms, and other spaces found within Building 470. All construction remodeling would remain internal to the existing Building 542. Construction would begin in early Spring 2019 and last 4 months.
Nearby Projects	
Chaffee Crossing	The Fort Chaffee Redevelopment Authority is planning the Chaffee Crossing project. Chaffee Crossing is a 7,000-acre development project with industrial, commercial, residential, and historical projects that started with the 1995 Base Realignment and Closure when the Federal government turned over Fort Chaffee to the ARARNG. A Master Plan was created in 2008 to support the development of an employment center that offers space for support services and residential uses. The Master Plan incorporates the principles of smart growth with a variety of mixed-use scenarios. Features of the Chaffee Crossing project are located along Interstate-49 including locations on adjacent property to Fort Chaffee (see Figure 3.6-1). The typical process for development at Chaffee Crossing involves land sales, purchase review and approval, design development, design review and approval, zoning, and construction (Robertson 2018). After sale of the property, the developers have 3 years to complete design and initiate construction (Robertson 2018). Chaffee Crossing involves a variety of projects at different planning phases, including projects that are currently unplanned, in the design and approval phase, planned construction, construction underway, and construction complete. A couple projects currently under construction include the HUB at Chaffing Crossing and residential areas. The HUB at Chaffee Crossing is a mixed-use development along Wells Lake Road that will feature a restaurant, commercial or retail space, and townhomes (FCRA 2018). An example of residential development is the Chaffee Crossing single-family neighborhood is under construction near Wells Lake Boulevard and Veterans Avenue. The subdivision will include 61 homes between 1,650 square feet and 2,400 square feet. Construction began in September 2018 (SW Times 2018). Several projects are planned on land adjacent to Fort Chaffee. An approximately 77-acre site on adjacent property will house an industrial warehouse park. The site is currently undergoing the design, review, and approval process with the Fort Chaffee Redevelopment Authority and the Fort Smith Planning Commission. Construction timing depends on the completion of the final approval process but could being in 2021 and last for approximately 3 to 5 years. The size, number, and type of buildings depend on final design and approval process but could involve light industrial manufacturing. Approximately 200 acres of land near the entrance of Fort Chaffee is currently available for Commercial Office/Mixed Use (see Figure 3.6-1). The property is currently for sale and once sold, would go through an approximately 3-year design and approval process prior to construction. The Fort Chaffee Historic District has several small parcels of land planned for development that would primarily involve renovation and restoration.
Highway 255 Relocation and Widening	The Highway 255 relocation project would involve roadway widening and relocation (see Figure 3.6-1). Roadway widening would involve expansion from two to five lanes and a bike path. Roadway relocation would involve relocation of Route 255 from Church Street in Barling south to Frontier Road. The relocated and widened road was traverse from Frontier road, along Zero Street until Massard Road (SW Times 2017). The project is planned to begin in 2020 and will last approximately 2 years (Robertson 2018).

ABB = American burying beetle; ADEQ = Arkansas Department of Environmental Quality; ARARNG = Arkansas Army National Guard; EA = Environmental Assessment; ESA = Endangered Species Act; LSS = Logistics Support Site; NEPA = National Environmental Policy Act; OST = Office of Secure Transport; REC = Record of Environmental Consideration; TRACOM = Training Command



Acronyms: LSS = Logistics Support Site; OST = Office of Secure Transport

Figure 3.6-1. Cumulative Projects

3.6.2 No Action – Environmental Consequences

Implementation of the No Action Alternative would result in no increased potential for adverse cumulative impacts. Construction of the Facilities Master Plan projects under the Proposed Action would not occur, and operations would remain consistent with the status quo. As a result, existing shortfalls in buildings, training facilities, and functions would continue to occur.

3.6.3 Proposed Action – Environmental Consequences

Analyzed resources, which could receive cumulative effects, are air quality, biological resources, greenhouse gases, noise, water resources, and wastes.

3.6.3.1 Biological Resources

Both the Proposed Action and projects considered in Table 3.6-1 would cause short-term increases in noise and air pollution, water use, and vehicular traffic during construction, which would adversely affect biological resources in the area. This would result in a short-term cumulative loss to wildlife, vegetation, and sensitive and natural communities in the region due to the amount of human activity. Short-term impacts occurring during construction activities could occur for projects that involve vegetation removal, habitat disturbance, displacement of wildlife or avoidance of construction areas, and degradation of aquatic environments. Several proposed projects would be located in previously developed areas that would not involve vegetation removal (e.g., Chaffee Crossing Industrial Warehouse Park and Commercial Office/Mixed Use). During construction, there would be an increased possibility for petroleum products or other hazardous materials to spill. If spills occur, they could potentially to lead to storm drains that flow to the Arkansas River. Spills would be minimized or avoided by adhering to implementing BMPs to reduce the potential for spills and to contain and clean up any spills that cannot be prevented. Long-term impacts would also arise from permanent loss of vegetation and habitat to accommodate new developments or infrastructure projects as described in Table 3.6-1. Removal of natural vegetation and habitat for new development projects would directly impact wildlife and vegetation and affect the overall habitable landscape. However, disturbed areas would be revegetated with native species at the conclusion of construction activities, and populations of protected species would be avoided during construction. As such, the cumulative effect on biological resources, including habitat and vegetation, would be negligible to minor depending on the extent of permanent habitat conversion. Overall cumulative impacts would be less than significant.

3.6.3.2 Noise

Cumulative noise impacts would occur when multiple projects affect the same geographic area at the same time or when sequential projects extend the duration of noise impacts at a given location over a longer period of time. Adverse cumulative noise impacts during construction of concurrent projects would be short-term and temporary. Projects considered in this analysis would have sufficient spatial separation to minimize cumulative noise impacts from construction activities. Noise impacts would be minimized at the project level by implementing standard BMPs. To the extent practicable, construction projects would limit construction activities to daytime hours and implement other measures to control noise. Long-term cumulative noise impacts are not anticipated as the Proposed Action is fully contained within the boundary of Fort Chaffee, and violation of noise standards are not expected. Overall impacts would be less than significant.

3.6.3.3 Soils

Cumulative effects from the Proposed Action and nearby projects could result in potential adverse impacts to soil resources during construction. Construction would cause soil compaction and damage to soil structure from construction equipment and grading activities. Clearing of proposed construction areas would also remove protective vegetative cover and potentially increase soil erosion. Soil erosion could

result in the loss of topsoil from its original location through wind and/or water erosion and indirectly increase the sediment levels of surface water through stormwater runoff. The effects of wind erosion would be reduced by using common dust suppression techniques, such as spraying the ground with water and revegetating disturbed areas with approved native plant species. Additionally, construction BMPs would reduce soil erosion by using sediment barriers (e.g., silt fencing, straw or hay bales and sand bags), temporary slope breakers, and mulching. During construction and operation, the potential exists for vehicles and equipment to release POLs and contaminate soil. Standard spill prevention and response procedures would reduce potential impacts during construction, maintenance, and training operations. As a result, overall cumulative impacts to soil resources would be less than significant.

3.6.3.4 Water Resources

During construction of all projects listed in Table 3.6-1, there would be an increased potential for spills of petroleum products or other hazardous materials, soil erosion, and sediment transport in runoff. Runoff and spills would be of particular concern for projects that are located adjacent to or in close proximity to water resources. For example, the Chaffee Crossing Industrial Warehouse Park project is located near Grayson Creek. Adherence to ADEQ stormwater permitting rules and regulations including the Construction Stormwater Permit would control erosion, minimize the potential for sedimentation, disperse stormwater on-site, and reduce the likelihood for petroleum products or other hazardous materials to spill. Once operational, the new development projects (e.g., Chaffee Crossing) would establish impervious surface that would increase the potential for stormwater runoff to transport pollutants to nearby waterbodies. Low-impact design features, such as drainage swales, would reduce the potential for runoff. Such features would be considered during the design and permitting phase of each project. Therefore, overall impacts would be less than significant.

3.6.4 Irreversible and Irretrievable Commitment of Resources

NEPA CEQ regulations require environmental analyses to identify "…any irreversible and irretrievable commitments of resources that would be involved in the proposal should it be implemented" (40 CFR 1502.16). Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the resulting effects on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy, minerals) that cannot be replaced within a reasonable timeframe. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural site).

The Proposed Action would not have irreversible impacts on the land because the affected areas could be used for other activities in the future. The primary irretrievable impact of the Proposed Action is from the use of energy, labor, materials, and funds. Irretrievable impacts would result from the use of fuel and other nonrenewable resources for construction and operations. No irreversible or irretrievable commitment of natural or cultural resources is expected to result from the Proposed Action. Implementation of standard operating procedures from the ARARNG ICRMP, guidance from INRMPs, and the measures identified in this EA for natural and cultural resources would reduce the potential for the irreversible or irretrievable loss of natural or cultural resources as a result of the Proposed Action.

CHAPTER 4 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

4.1 FINDINGS

All potentially relevant resource areas were initially considered for analysis in this EA. In compliance with NEPA and CEQ guidelines, the discussion of the affected environment and the environmental consequences focuses only on those resource areas considered potentially subject to impacts and with potentially significant environmental issues. NNSA concluded that the Proposed Action would result in no impacts or negligible impacts to the following resource areas: air quality, cultural resources, geology, greenhouse gases and climate change, infrastructure and utilities, hazardous materials and wastes, land use and aesthetics, groundwater, wetlands, socioeconomics, community services, environmental justice, and traffic and transportation.

Potential impacts related to the following resources would be less than significant with implementation of measures incorporated into the Proposed Action: biological resources, noise, soils, surface water, and floodplains. Measures incorporated into the Proposed Action are described in Chapter 3. Table 2-2 provides a comparison of potential impacts of the Proposed Action and No Action Alternative.

4.2 CONCLUSIONS

Based on the environmental analyses contained in this EA, it was determined that implementation of the Proposed Action with identified measures incorporated into the Proposed Action would not have any significant direct, indirect, or cumulative impacts on the human environment.

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Fort Chaffee, AR 72905

Ms. Melissa Lombardi
U.S. Fish and Wildlife Service, Arkansas Field Office
110 South Amity Road, Suite 300
Conway, AR 72032
*Note: Fort Chaffee managed distribution of the EA to USFWS.

State, County, and Local Entities

Ms. Gwen Ervin-McLarty
State Clearinghouse Manager
Arkansas State Clearinghouse
Office of Intergovernmental Services
P.O. Box 8031
Little Rock, AR 72203

Native American Tribes

Ms. Jess G. Hendrix
Archaeologist
Osage Nation
627 Grandview Avenue
P.O. Box 779
Pawhuska, OK 74056

Ms. Elizabeth Toombs
THPO
Cherokee Nation
P.O. Box 948
Tahlequah, OK 74465

Mr. Daniel Ragle
Compliance Review Officer
Choctaw Nation of Oklahoma
P.O. Box 1210
Durant, OK 74702

Ms. Charlotte Wolfe
Section 106 Compliance Officer
United Keetoowah Band of Cherokee Indians in Oklahoma
18263 W. Keetoowah Circle
Tahlequah, OK 74464

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APPENDIX A
AGENCY CORRESPONDENCE

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APPENDIX A AGENCY CORRESPONDENCE

A.1 INTRODUCTION

During preparation of the Environmental Assessment (EA), the United States (U.S.) Department of Energy (DOE), National Nuclear Security Administration (NNSA) actively maintained communication with Federal, State, and Native American tribal governments. This appendix summarizes the records of formal consultation between the NNSA and these government agencies.

NNSA coordinated with the Arkansas Army National Guard (ARARNG) and the Arkansas State Clearing House, Office of Intergovernmental Services.

Section A.2 of this appendix contains a representative consultation letter used for correspondence with Native American tribes. Four Native American tribes responded (Cherokee Nation, Choctaw Nation of Oklahoma, Osage Nation, and United Keetoowah Band of Cherokee Indians In Oklahoma) and requested a copy of the Draft EA. The following is a list of Native American tribes contacted during preparing of the EA:

- Absentee Shawnee Tribe
- Alabama-Quassarte Tribal Town Creek Nation of Indians, Oklahoma
- Caddo Nation
- Cherokee Nation
- Chickasaw Nation
- Choctaw Nation of Oklahoma
- Eastern Shawnee Tribe of Oklahoma
- Jena Band of Choctaw Indians
- Kialegee Tribal Town
- Muscogee (Creek) Nation of Oklahoma
- Osage Nation
- Ozark Mountain Cherokee Tribe of Arkansas and Missouri
- Quapaw Tribe of Oklahoma
- Seminole Nation of Oklahoma
- Shawnee Tribe of Oklahoma
- Thlopthlocco Tribal Town
- United Keetoowah Band of Cherokee Indians in Oklahoma
- Wichita and Affiliated Tribes

A.2 NATIVE AMERICAN TRIBAL COORDINATION

National Nuclear Security Administration
Office of Secure Transportation
P.O. Box 5400
Albuquerque, New Mexico 87185-5400

December 11, 2018

NAME
TRIBE
ADDRESS
ADDRESS

Dear NAME:

The U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA), Office of Secure Transportation (OST), has determined that an Environmental Assessment (EA) will be prepared for NNSA's proposal to implement the Facilities Master Plan projects at the Transportation Safeguards Training Site at Fort Chaffee, Arkansas. The scope of the proposed activities would include: construction (vegetation removal, earth work, and demolition) and operation of the Facilities Master Plan projects, which would all be located within the installation boundary of Fort Chaffee and the OST Logistics Support Site (located directly northwest of Fort Chaffee). The proposed projects evaluated in the EA include training range improvements, building expansion and renovation, and new buildings including administration buildings, classrooms, and a dormitory.

DOE National Environmental Policy Act (NEPA) regulations provide for the notification to host states and tribes of a determination to prepare an EA and for the opportunity to review EAs prior to DOE approval. The process is intended to improve coordination and facilitate early and open communication between DOE and host states and tribes. DOE will also issue this EA to other interested stakeholders for review and comment. DOE is preparing the EA and expects to provide the Draft EA in early 2019 to interested parties from the State of Arkansas, potentially affected tribes, and other interested stakeholders for a 30-day review period.

If you are interested in the project and would like to receive a copy of the Draft EA, then please send a notification within 30 days of the letter to Lisa Swift at Lisa.Swift@nnsa.doe.gov or P.O. Box 5400, Kirkland AFB East, Albuquerque, NM 87185, or call at (505) 845-4738. For further information about the NEPA process, please contact Lynn Alexander at Lynn.Alexander@nnsa.doe.gov or (202) 302-0141. Thank you for your consideration.

Sincerely,

Lisa Swift
General Engineer

cc:
NAME

From:	Daniel R. Ragle
To:	Swift, Lisa
Cc:	Alexander, Lynn
Subject:	RE: Preparing an Environmental Assessment for NNSA"s Proposal to Implement the Facilities Master Plan Projects at the Transportation Safeguards Training Site at Fort Chaffee, Arkansas
Date:	Thursday, December 27, 2018 11:12:09 AM

Thank you for the correspondence regarding the above referenced project. We are unaware of any Choctaw historic/sacred sites located within the area. The Choctaw Nation of Oklahoma requests a copy of the draft EA, once one is available. If you have any questions, please contact me by email.

Daniel Ragle
Compliance Review Officer
Historic Preservation Dept.
Choctaw Nation of Oklahoma
[redacted]
www.choctawnation.com
www.choctawnationculture.com

From: Swift, Lisa
To: Melissa Secor; Robert Naumann; Weckerle, John
Subject: FW: Information Request: EA for Transportation Safeguards Training Site, Fort Chaffee, Arkansas
Date: Tuesday, January 22, 2019 1:10:49 PM

FYI

From: Alexander, Lynn
Sent: Thursday, January 17, 2019 12:01 PM
To: Swift, Lisa [redacted]
Cc: Weckerle, John [redacted]
Subject: FW: Information Request: EA for Transportation Safeguards Training Site, Fort Chaffee, Arkansas

FYI

Lynn Alexander
Environmental Protection Specialist
NNSA Office of General Counsel, NA-GC
U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585
[redacted]

From: Elizabeth Toombs [redacted]
Sent: Friday, January 04, 2019 5:20 PM
To: Alexander, Lynn [redacted]
Subject: [EXTERNAL] Information Request: EA for Transportation Safeguards Training Site, Fort Chaffee, Arkansas

Good Afternoon, Ms. Swift:

This Office recently received notice about the availability of an Environmental Assessment for the Facilities Master Plan projects at the Transportation Safeguards Training Site. Sebastian County, Arkansas is within the Cherokee Nation's Area of Interest. Thus, please allow this email to serve as a request for the related materials for consultation. This Office prefers electronic materials to initiate review.

Many thanks for your time and additional information. Please contact me if there are any questions or concerns.

Wado,

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation
Tribal Historic Preservation Office

[redacted]

****
This message does not originate from a known Department of Energy email system.
Use caution if this message contains attachments, links or requests for information.

****

Osage Nation Historic Preservation Office

Date: **January 23, 2019** **File: 1819-2399AR-12**

RE: **DOE, NNSA, OST, Facilities Master Plan Projects at the Transportation Safeguards Training Site at Fort Chaffee, Arkansasa**

National Nuclear Security Administration
Lisa Swift
P.O. Box 5400
Albuquerque, NM 87185-5400

Dear Ms. Swift,

The Osage Nation Historic Preservation Office has received notification and accompanying information for the proposed project listed as DOE, NNSA, OST, Facilities Master Plan Projects at the Transportation Safeguards Training Site at Fort Chaffee, Arkansasa. **The Osage Nation requests a copy of the Draft Environmental Assessment (EA) for review and comment.**

In accordance with the National Historic Preservation Act, (NHPA) [54 U.S.C. § 300101 et seq.] 1966, undertakings subject to the review process are referred to in 54 U.S.C. § 302706 (a), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Osage Nation has a vital interest in protecting its historic and ancestral cultural resources. **The Osage Nation anticipates reviewing and commenting on the Draft Environmental Assessment for the proposed DOE, NNSA, OST, Facilities Master Plan Projects at the Transportation Safeguards Training Site at Fort Chaffee, Arkansasa.**

Should you have any questions or need any additional information please feel free to contact me at the number listed below. Thank you for consulting with the Osage Nation on this matter.

Jess G. Hendrix
Archaeologist

627 Grandview * Pawhuska, OK 74056 Telephone 918-287-5328 * Fax 918-287-5376

Melissa Secor

Subject: FW: Initial Consultation
Attachments: Intitial Correspondence Letter.doc

From: Charlotte Wolf [redacted]
Sent: Friday, February 01, 2019 9:59 AM
To: Swift, Lisa <Lisa.Swift@nnsa.doe.gov>
Subject: Initial Consultation

Hello,
Thank you for requesting early consultation with the United Keetoowah Band of Cherokees in Oklahoma. Please see attachment.

Thank You,

Charlotte Wolfe
Section 106 Compliance Officer
[redacted]
18263 W. Keetoowah Circle
Tahlequah, OK 74464

United Keetoowah Band
Of Cherokee Indians in Oklahoma
Office of Historic Preservation
P.O. Box 746 • Tahlequah, OK 74465
18263 W Keetoowah Circle • Tahlequah, OK 74464
Phone: (918) 871-2800 • Fax: (918) 414-4000
www.ukb-nsn.gov

January 23, 2019

RE:

To Whom It May Concern:

Thank you for consulting with the United Keetoowah Band of Cherokee Indians in Oklahoma (UKB). This letter serves as notification of receipt of your correspondence of DATE. In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470f), and implementing regulation, 36 CFR 800, "Protection of Historic Properties" the UKB is responding to your request for consultation on the project in XXXX County, XXXX.

In order to meet the federal Section 106 requirements and thoroughly review a project within 30 days, our office must receive the following:

- Name of Project with brief description of ground disturbing work
- Geographic Coordinates
- County
- State
- Listing of any Historic Properties within a half mile of the project
- Any supporting shapefiles of the project APE
- Cultural Survey Report
- Principal Investigator Name

At the end of this letter, I have added our Section 106 Consultation Procedures and Cultural Resource Survey Report Standards for your convenience.

Please note that these comments are based on information available to us at the time of the project review. We reserve the right to revise our comments as information becomes available.

If you have any questions or concerns, please contact me by phone or by email,

Thank You,

Charlotte Wolfe
Section 106 Compliance Officer
United Keetoowah Band of Cherokee
18263 W. Keetoowah Circle
Tahlequah, OK 74464
[redacted]

1

United Keetoowah Band
Of Cherokee Indians in Oklahoma
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18263 W Keetoowah Circle • Tahlequah, OK 74464
Phone: (918) 871-2800 • Fax: (918) 414-4000
www.ukb-nsn.gov

Section 106 Consultation Procedures

The United Keetoowah Band of Cherokee Indians in Oklahoma Historic Preservation Office has developed the following consultation procedures for all Section 106 projects identified as federal undertakings.

Please submit:

1. A 1-page cover letter with the following information:
    a. Project Number (include on all correspondence)
    b. Project Name, City, County, and State
    c. Project Type
        i. Explanation of ground disturbance
    d. Geographic Coordinates in WGS84 Latitude and Longitude
    e. Contact information including individual's name, address, phone, fax, and email
    f. Principal Investigator for survey report including address, phone, fax, and email
2. Professional cultural/archaeological survey report including curriculum vitae for all archaeologists who conduct the field surveys and produce the cultural survey reports.
3. Aerial and/or color USGS topographic maps locating project area within a) state, b) county, and c) local area
4. Aerial, color USGS topographic, planimetric maps specifically locating
    a. 0.5 or 1.0 mile APE study area
    b. Location of archaeological and historic sites in the APE and in close proximity to the APE
5. Project site plan maps depicting labeled shovel test locations. Do not submit hand drawn or hand annotated maps. **The minimum shovel test density is one every 30 m for negatives. Positive shovel test densities should be every 15m until two negatives are excavated in order to delineate site boundaries. The minimum width for a shovel test is 30 cm. Shovel test minimum depth is to 30 cm below surface, sterile soil, or the water table. If terminated before sterile soil is reached, please provide an explanation either in the text or in the shovel test table. Excavated shovel tests must be screened using 0.25 inch mesh screen, dug in stratigraphic or 10 cm levels, and measurements must be recorded in centimeters.**
6. Table listing shovel test locations, width (cm), depth (cm), soils, and results.
7. Date-stamped site photographs in color of
    a. Field site
    b. All shovel test units with a scale and geographic coordinates

United Keetoowah Band
Of Cherokee Indians in Oklahoma
Office of Historic Preservation
P.O. Box 746 • Tahlequah, OK 74465
18263 W Keetoowah Circle • Tahlequah, OK 74464
Phone: (918) 871-2800 • Fax: (918) 414-4000
www.ukb-nsn.gov

Cultural Resource Survey Report Standards

Below are the requirements for a cultural resource survey report that will enable the United Keetoowah Band of Cherokee Indians in Oklahoma, Office of Historic Preservation to efficiently and effectively assess the proposed project. Please include in all reports:

1. Abstract
    a. Brief summary of the project, survey results, and recommendations
2. Introduction
    a. Introduce project and project design
3. Environmental Setting
    a. Specific location, legal description, composition of project site
    b. General location, geomorphology, landform, soils, vegetation, hydrology
4. Cultural History
    a. Brief overview of cultural occupation represented in locale
5. File Search and Previous Research
    a. Results of file search in state database for previously recorded archaeological sties and review of previous archaeological investigations
    b. The file search should be for both below ground archaeological sites and above ground historic sites as some states have two repositories for this information (i.e. Tennessee)
6. Field Methods and Analytical Techniques
    a. How field survey and analysis were conducted
7. Results of Archaeological Field Investigations
    a. Review of finding and identification of National Register of Historic Places
8. Recommendations
    a. Summarization of archaeological sites identified, NRHP determinations, and project recommendations
9. References Cited

APPENDIX B
FLOODPLAIN ASSESSMENT AND STATEMENT OF FINDINGS

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APPENDIX B FLOODPLAIN ASSESSMENT AND STATEMENT OF FINDINGS

B.1 INTRODUCTION

This Floodplain Assessment and Statement of Findings has been prepared in accordance with 10 Code of Federal Regulations (CFR) 1022, "Compliance with Floodplain and Wetland Environmental Review Requirements" which were promulgated to implement the requirements of the U.S. Department of Energy's (DOE's) responsibilities under Executive Order 11988, Floodplain Management, and Executive Order 11990, Wetlands Protection. According to 10 CFR 1022, a floodplain is defined as the lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands, including, at a minimum, that area inundated by a 1 percent or greater chance flood in any given year (the "100-year floodplain").

The National Nuclear Security Administration (NNSA) Office of Secure Transportation (OST) is proposing to implement the Facilities Master Plan projects at the Transportation Safeguards Training Site at Fort Chaffee, Arkansas. OST completed a Facilities Master Plan in 2017 outlining facility consolidation and modernization projects for the next 5 years within the Transportation Safeguards Training Site. The Facilities Master Plan contains a total of 14 future projects, one of which (the Multi-Use Administration and Classroom Building – South Option and North Option) involves construction of facilities within the 100-year floodplain of Grayson Creek.

Accordingly, as required by 10 CFR 1022, NNSA prepared this floodplain assessment to evaluate the potential impacts of implementing the project within a floodplain. This assessment is being distributed to appropriate government agencies and other interested parties for review and comments as part of the Draft EA 30-day comment period. Comments received during the 30-day comment period will be considered in the Final EA and floodplain assessment. None of the proposed projects associated with the Facilities Master Plan are located within a wetland.

B.2 PROJECT DESCRIPTION

The Multi-Use Administration and Classroom Building Project would consolidate functions from currently inadequate Arkansas Army National Guard (ARARNG) facilities to a modern, energy efficient, training and administration facility for OST. The new building would be approximately 35,000 square feet and include security fencing and pavement for a parking lot. Construction activities would include demolition, clearing, excavation, grading, utility tie-ins, paving of a new parking lot, and structural. Utility and infrastructure extensions would be routed to the new building including underground electrical, 8-inch water, 6-inch wastewater, stormwater, 3-inch natural gas line, and fiber optic communication cable.

Once operational, the Multi-Use Administration and Classroom Building would occupy an approximately 0.9-acre area. OST is considering two alternative locations for the Multi-Use Administration and Classroom Building, a South Option and a North Option. Both options involve construction of facilities within the 100-year floodplain.

Multi-Use Administration and Classroom Building – South Option, Project 9a

The South Option for the proposed Multi-Use Administration and Classroom Building Project would occupy an approximately 2.6-acre operational area for the new building and parking lot. The construction footprint for the new building would occupy 3.1 acres that currently includes a paved parking area and Buildings 1792 and 1793, which would be demolished. An existing drainage swale that serves as a water conveyance of Grayson Creek is routed through the site and would be placed underground and paved over

to support embarkation operations (i.e., parking and operational area necessary to support operational requirements in the Limited Area). This includes an approximate 0.4-acre portion within the 100-year floodplain of Grayson Creek. To support the South Option, a new 110-space parking lot would be constructed in an approximately 1.7-acre grassy field across the street from Building 1794 (see Figure B-1). The new parking lot is located outside of the floodplain.

Multi-Use Administration and Classroom Building – North Option, Project 9b

The North Option for the proposed Multi-Use Administration and Classroom Building Project would occupy an approximately 2.2-acre operational area of previously disturbed land to the north of the Limited Area. The construction footprint for the project would occupy 5.5 acres that currently includes grass areas, paved sidewalks, and Buildings 1791, 1786, 1784, and 1785, which would be demolished. The North Option would include a new building that would occupy an approximately 0.9-acre area. An additional 1.3 acres would be required for an approximately 50-space parking lot, sidewalk, and concrete area. Depending on building design, approximately 1.4 acres of the project area could be located within the 100-year floodplain, including 0.4 acre of the proposed building and 1.0 acre for the parking lot, sidewalk, and concrete area.

B.3 DESCRIPTION OF FLOODPLAIN

The proposed project site is within the 100-year floodplain mapped by the Federal Emergency Management Agency (FEMA) as Zone A – No Base Flood Elevations determined (see Figure B-1). Considerable areas of the mapped floodplain are already developed and portions of Grayson Creek within the area has been placed underground (culverted) to accommodate structures including parking areas and buildings.

B.3.1 Floodplain Impacts

Construction activities associated with the proposed project would involve work within the 100-year floodplain. Placement of paved surfaces to support embarkment operations in the South Option and the siting of the building and surface parking lot in the North Option would not cause a detectable change in base flood elevations, and the facilities would not obstruct the flow of flood water as the floodplain within the area is currently developed. The existing elevations and flow paths of the area within the floodplain are not expected to change with any significance and the nature and extent of the flood hazard caused by the proposed project is not expected to change from the present conditions. No effects to lives and property associated with floodplain disturbance are anticipated.

Following construction, temporarily disturbed areas would be restored to their original contours and paved surface areas would designed to maintain flood elevations. Increases in impervious surfaces would be addressed in site design to minimize stormwater runoff. Best management practices would be implemented to reduce construction-related pollutants to stormwater runoff, and to minimize potential for soil erosion in the floodplain during construction of the facility. Spill control measures would be utilized when necessary and spill control kits would be readily available for use at all locations where heavy equipment would be utilized.

Design of the building in the North Option would involve reviewing plans for the structure to be in compliance with FEMA National Flood Insurance Program's Building Standards requirements for nonresidential structures which requires elevating the lowest floor to or above the base flood level.

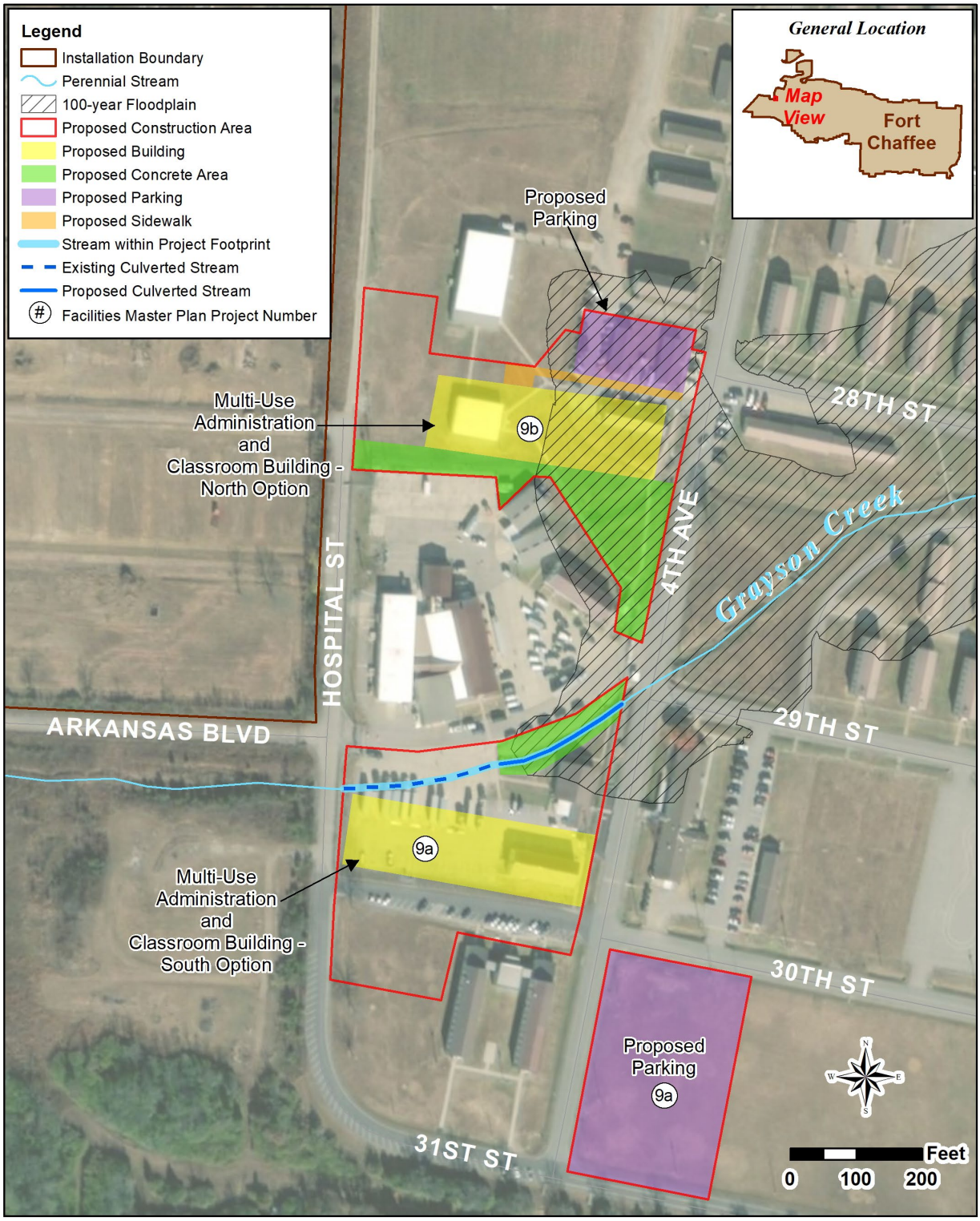

Figure B-1. 100-year Floodplain within Proposed Master Plan Projects

B.4 ALTERNATIVES

The alternatives available to NNSA for siting the Multi-Use Administration and Classroom Building along with the other project identified in the Facilities Master Plan were limited. The master planning process led to the identification of 14 projects. Due to the limited space of available buildable land at Fort Chaffee, mission requirements, and the need to accommodate the 14 projects identified within the Facilities Master Plan, NNSA determined the proposed site options are the best potential locations for the Multi-Use Administration and Classroom Building. Although the site requires minimal construction in the floodplain, it also maximizes use of previously disturbed and nearly flat areas.

B.5 NOTICE OF FLOODPLAIN ACTION AND COMMENT PERIOD

In accordance with 10 CFR 1022, DOE is providing this floodplain assessment to appropriate government agencies and other interested parties for review and comments. NNSA published a Notice of Availability in the *Fort Smith Times Record* newspaper regarding the availability of the Draft EA and Floodplains Assessment. The Draft EA is available electronically on the DOE website at: https://www.energy.gov/nepa/doe-environmental-assessments. Comments received during the 30-day comment period will be considered in preparation of the Final EA and this floodplain assessment.

B.6 CONCLUSIONS AND STATEMENT OF FINDINGS

It is anticipated that this project would not result in adverse impacts to the 100-year floodplain. Temporary disturbance within the floodplain would cease following completion of construction activities associated with this proposed project. Proper erosion and sediment control measures would be utilized during construction and the site would be restored to pre-construction conditions. This proposed project would not significantly modify existing elevations and flow paths of the area within the floodplain from pre-project conditions to post-project conditions or result in other long-term impacts to the floodplain and its functionality. No effects to lives and property associated with floodplain disturbance are anticipated.