

**FINAL**

**DECISION DOCUMENT**

**M9 RIFLE GRENADE AREA MUNITIONS RESPONSE SITE  
FORMER CAMP FANNIN MULTIPLE RANGES  
SMITH COUNTY, TEXAS**

**FUDS Project No. K06TX006105**

**Prepared for:**

**U.S. Army Engineering and Support Center, Huntsville**



**Contract No. W912DY-04-D-007**

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**Geographic District:**

**U.S. Army Corps of Engineers, Fort Worth District**

**February 2017**

## EXECUTIVE SUMMARY

This Decision Document (DD) is being presented by the United States Army Corps of Engineers (USACE) to describe the Department of Army's (Army) selected remedy for the M9 Rifle Grenade Area Munitions Response Site (MRS) at the Former Camp Fannin Artillery Ranges' Formerly Used Defense Site (FUDS) in Smith County, Texas. The remedies described in this DD were selected in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S. Code § 9601, et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations Part 300, et seq., as amended.

The Defense Environmental Restoration Program (DERP) was established by Congress in 1986 and directed the Secretary of Defense to "...carry out a program of environmental restoration at facilities under the jurisdiction of the Secretary." DERP provides for the cleanup of Department of Defense (DoD) sites and a Military Munitions Response Program (MMRP) element was established under DERP in 2001 to address non-operational range lands known or suspected to contain munitions and explosives of concern (MEC), or munitions constituents (MC) contamination. USACE is the program manager for FUDS DERP. USACE is the lead agency for investigating, reporting, making remedial decisions, and taking remedial actions at the MRSs identified at the Former Camp Fannin, while the Texas Commission on Environmental Quality (TCEQ) is the lead regulatory agency.

Based on the results of the Remedial Investigation (RI), the Former Camp Fannin was delineated into 6 MRSs. The delineation was based on the potential presence of MEC, differences in land ownership, and current and reasonably anticipated future land use. The 6 MRSs at the Former Camp Fannin are listed below in Table ES-1 and identified in Figure 2. With the exception of the Non-ROE MRS, each MRS listed in the table below is addressed by a site specific DD.

Table ES- 1

Munitions Response Site (MRS)	Acreage
2.36-Inch Rocket Area MRS	326
60 mm Mortar Area MRS	775
60/81 mm Mortar Area MRS	784
M9 Rifle Grenade Area MRS	274
Non-ROE Areas MRS	117
Investigated-No Evidence of MEC/MD Contamination MRS	888.5

This document addresses the M9 Rifle Grenade Area MRS only. The M9 Rifle Grenade Area MRS consists of approximately 274 acres located along the south-western portion of the Former Camp Fannin Range Complex. This MRS contains firing points and portions of numerous range fans associated with the Former Camp Fannin Range Complex. No MEC was found in the M9 Rifle Grenade MRS during the course of the RI. However, munitions debris (MD) associated with rifle grenades and hand grenades (cups and tail fins) was encountered on the surface. These items could be associated with munitions presenting

an explosive hazard. As a result, the RI concluded that there is a potential for MEC to be present over the MRS on the surface and in the shallow subsurface.

The RI completed for the Former Camp Fannin in 2011 concluded that potential MEC hazards are present for the current and future residents, privately owned properties, commercial workers and site visitors and/or recreational users. Therefore, the RI for the Former Camp Fannin recommended a Feasibility Study (FS) be conducted to evaluate a range of possible remedial alternatives. The FS for the Former Camp Fannin, and the related Proposed Plan (PP) for select Former Camp Fannin MRSs, were completed in 2013 and resulted in the lead agency recommending a remedy for the M9 Rifle Grenade Area MRS that incorporates land use controls (LUCs). The alternative is protective of human health and the environment. The estimated cost for the recommended remedy at the M9 Grenade Area MRS is \$135,170.00. Additionally, because this remedy does not allow for unlimited use/unlimited exposure (UU/UE), five year reviews will be required. The estimated cost for conducting five year reviews for 30 years is \$358,020.00. Therefore, the estimated total cost for the selected remedy is \$493,190.00. Following stakeholder and public review of these recommendations and the PP for the Former Camp Fannin, the lead agency has determined that the recommended remedy is appropriate for this MRS. Based on information currently available, the selected remedy (LUCs and long term monitoring) is protective of human health, safety, and the environment; and satisfies the statutory requirements of CERCLA §121(b) with regard to the former use of this MRS by the Army and DoD.

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## ATTACHMENTS

Attachment 1: Announcement of Public Notice

## GLOSSARY OF TERMS

**Anomaly** – Any item that is detected as a subsurface irregularity after geophysical investigation. This irregularity should deviate from the expected subsurface ferrous and non-ferrous material at a site (i.e., pipes, power lines, etc.).

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, otherwise known as Superfund)** – Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986. (40 CFR 300)

**Applicable or relevant and appropriate requirements (ARAR)** – Applicable requirements means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable. Relevant and appropriate requirements means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not “applicable” to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are identified in a timely manner and are more stringent than federal requirements may be relevant and appropriate. (40 CFR 300)

**Chemical of Concern (COC)** – COCs are defined as the Chemicals of Potential Concern (COPC) that are present at sufficient concentrations to pose a risk to human health or the environment.

**Decision Document (DD)** – A document that certifies the remedy complies with CERCLA; outlines the technical goals of the remedy; provides background information on the site; and summarizes the analysis of alternatives and explains the rationale for the remedy selected.

**Discarded Military Munitions (DMM)** – Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance (UXO), military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of consistent with applicable environmental laws and regulations.

**Feasibility Study (FS)** – The process during which potential remedial alternatives for a site are developed and evaluated to provide the basis of a rationale for remedy selection.

**Five-Year Reviews** – Pursuant to CERCLA and the NCP, statutory five-year reviews are carried out upon completion of the remedial action, when hazardous substances, pollutants, or contaminants will remain on site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

**Formerly Used Defense Site (FUDS)** – Properties that were owned by, leased to, or otherwise

possessed by and under the jurisdiction of the Department of Defense.

**Military Munitions Response Program (MMRP)** – Program established by the DoD to manage environmental, health and safety issues presented by MEC.

**Munitions Constituents (MC)** – Any materials originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions.

**Munitions Debris (MD)** – Remnants of munitions (e.g., penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization or disposal. Munitions debris is confirmed inert and free of explosive hazards by technically qualified personnel.

**Munitions and Explosives of Concern (MEC)** – This term, which distinguishes specific categories of military munitions that may pose unique explosives safety risks, means: (a) unexploded ordnance; (b) discarded military munitions; or (c) Explosive MC (e.g., TNT, RDX) present in high enough concentrations to pose an explosive hazard.

**Munitions Response Site (MRS)** – A discrete location that is known to require a munitions response.

**Munitions Response Area (MRA)** – Any area on a defense site that is known or suspected to contain UXO, DMM, or MC. A munitions response area is comprised of one or more munitions response sites.

**National Oil and Hazardous Substances Pollution Contingency Plan (NCP)** – The plan revised pursuant to 42 USC 9605 and found at 40 CFR 300 that sets out the plan for hazardous substance remediation under CERCLA. (40 CFR 300)

**Preferred Alternative(s)** – The alternative(s) that, when compared to other potential alternatives, was/were determined to best meet the CERCLA evaluation criteria and is proposed for implementation at an MRS.

**Preliminary Screening Value (PSV)** – The concentration of a chemical, below which no further evaluation of that chemical is necessary to evaluate nature and extent of contamination, or risk to human health and the environment. The preliminary screening value is based on consideration of human health and ecological exposure pathways, and naturally occurring concentrations of a chemical, as appropriate.

**Proposed Plan (PP)** – A plan that identifies the preferred remedial alternative(s) for a site, and is made available to the public for comment.

**Public Education** – A variety of methods to educate the public regarding potential hazards at the site, including, but not limited to, fact sheets, letters, newspaper notices, meetings, and website.

**Remedial Investigation (RI)** – Exploratory inspection conducted at a site to define the nature and extent of contamination present, and to assess potential related hazards and risks.

**Superfund** – See Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) above.



**Unexploded Ordnance (UXO)** – Military munitions that: (a) have been primed, fused, armed, or otherwise prepared for action; (b) have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and (c) remain unexploded either by malfunction, design, or any other cause.

**UXO-Qualified Personnel** – Personnel who have performed successfully in military Explosive Ordnance Detachment (EOD) positions, or are qualified to perform in the following Department of Labor, Service Contract Act, Directory of Occupations, contractor positions: UXO Technician II, UXO Technician III, UXO Safety Officer, UXO Quality Control Specialist, or Senior UXO Supervisor (DDESB, 2004).

## ACRONYMS AND ABBREVIATIONS

AP	Armor Piercing
ARAR	Applicable or relevant and appropriate requirement
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Chemical of Concern
COPC	Chemicals of Potential Concern
CSM	Conceptual Site Model
DERP	Defense Environmental Restoration Program
DGM	Digital geophysical mapping
DoD	Department of Defense
ESD	Explanation of Significant Difference
FS	Feasibility Study
FUDS	Formerly Used Defense Site
GPS	Global Positioning System
HA	Hazard Assessment
LUC	Land Use Control
LTM	Long-Term Management
MC	Munitions Constituents
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
MMRP	Military Munitions Response Program
MRS	Munitions Response Site
MRA	Munitions Response Area
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPV	Net Present Value
RAO	Remedial Action Objective
RI	Remedial Investigation
ROE	Right-of-Entry
TCEQ	Texas Commission on Environmental Quality
TPP	Technical Project Planning
TPWD	Texas Parks and Wildlife Department
U.S.	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UXO	Unexploded Ordnance
WMA	Wildlife Management Area

# PART 1 – DECLARATION

## 1 SITE NAME AND LOCATION

The site is the M9 Rifle Grenade Area Munitions Response Site (MRS), Former Camp Fannin Multiple Ranges' Formerly Used Defense Site (FUDS), located in Smith County, Texas (Figures 1 & 2).

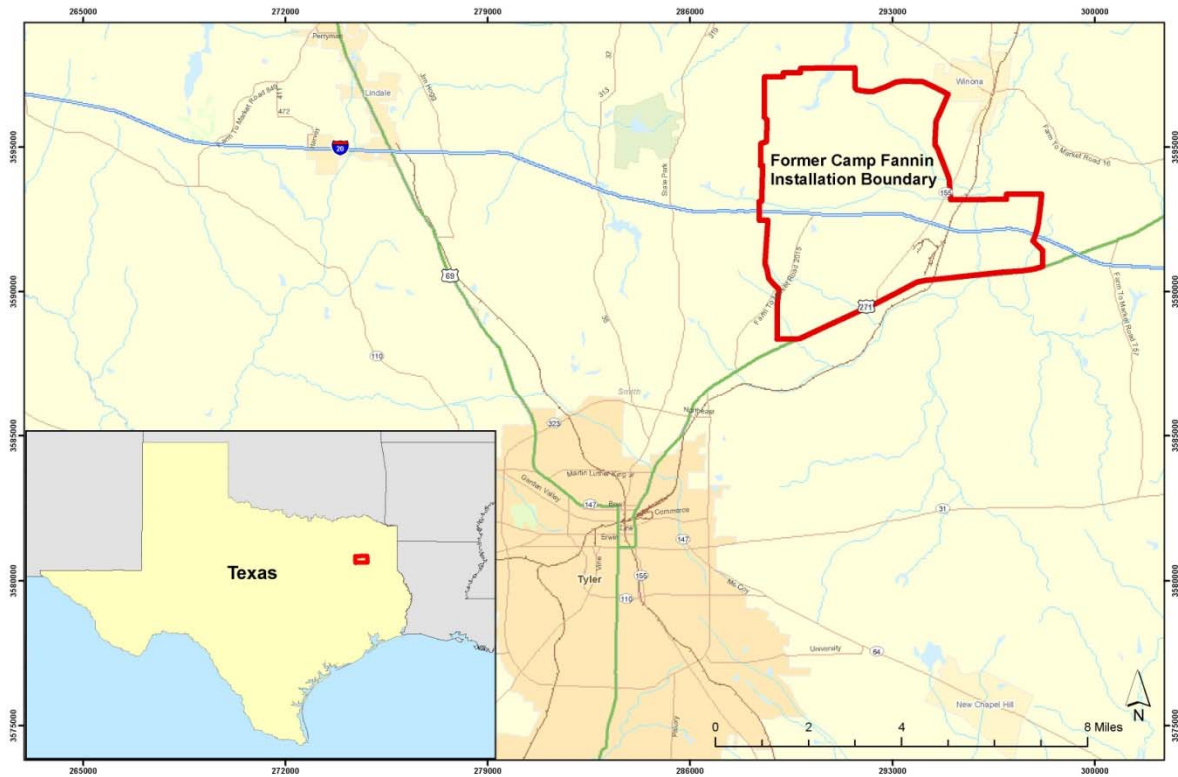
## 2 STATEMENT OF BASIS AND PURPOSE

This Decision Document (DD) is being presented by the United States Army Corps of Engineers (USACE) to describe the Department of Army's selected remedies for the M9 Rifle Grenade Area MRS at the Former Camp Fannin FUDS in Smith County, Texas (Figure 3). The Defense Environmental Restoration Program (DERP) was established by Congress in 1986 and directed the Secretary of Defense to "...carry out a program of environmental restoration at facilities under the jurisdiction of the Secretary." DERP provides for the cleanup of Department of Defense (DoD) sites. A Military Munitions Response Program (MMRP) element was established under DERP in 2001 to address non-operational range lands known or suspected to contain munitions and explosives of concern (MEC) or munitions constituents (MC) contamination. The USACE is the program manager for the FUDS DERP. USACE is the lead agency for investigating, reporting, making remedial decisions, and taking remedial actions at the MRSs identified at the Former Camp Fannin, while the Texas Commission on Environmental Quality (TCEQ) is the regulatory agency.

This DD has been prepared in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund, and follows the requirements from *Engineer Regulation 200-3-1; FUDS Program Policy* (USACE, 2004); *MMRP Interim Guidance Document 06-04* (USACE, 2006); and the United States Environmental Protection Agency (USEPA) guidance provided in *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents, USEPA 540-R-98-031* (USEPA, 1999). Because this DD follows the precise format specified in the USEPA guidance, some sections are included that might not apply to this site and the associated selected remedies. In these cases, text is included explaining why the information required in the guidance is not relevant and/or not applicable to the Former Camp Fannin or specifically to the M9 Rifle Grenade Area MRS addressed in this DD.

The remedy described in this DD was selected in accordance with CERCLA, 42 U.S. Code § 9601, et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations, Part 300, et seq., as amended.

Figure 1: Former Camp Fannin Location



### 3 ASSESSMENT OF SITE

The site addressed by this DD is the M9 Rifle Grenade Area MRS, which encompasses approximately 274 acres in the southern portion of the multiple ranges complex. A Remedial Investigation (RI) was completed at Former Camp Fannin in 2011. Through completion of reconnaissance transects, Digital Geophysical Mapping (DGM) transects and grids, reacquisition and intrusive investigation of the anomalies within the DGM grids, and mag-and-dig transects, no MEC was found in the M9 Rifle Grenade MRS during the course of the RI. However, MD associated with rifle grenades and hand grenades (cups and tail fins) was encountered on the surface. These items could be associated with munitions presenting an explosive hazard. As a result, the RI concluded that there is a potential for MEC to be present over the MRS on the surface and in the shallow subsurface. Therefore, the site poses a threat to public health, welfare, or the environment. MC sampling indicated that there are no unacceptable risks to human health or the environment due to exposure to MC at this MRS. These determinations are based on an evaluation of site-specific data which representatives of USACE and TCEQ reviewed, and agreed with its conclusions and recommendations.

Figure 2: Former Camp Fannin Munitions Response Sites

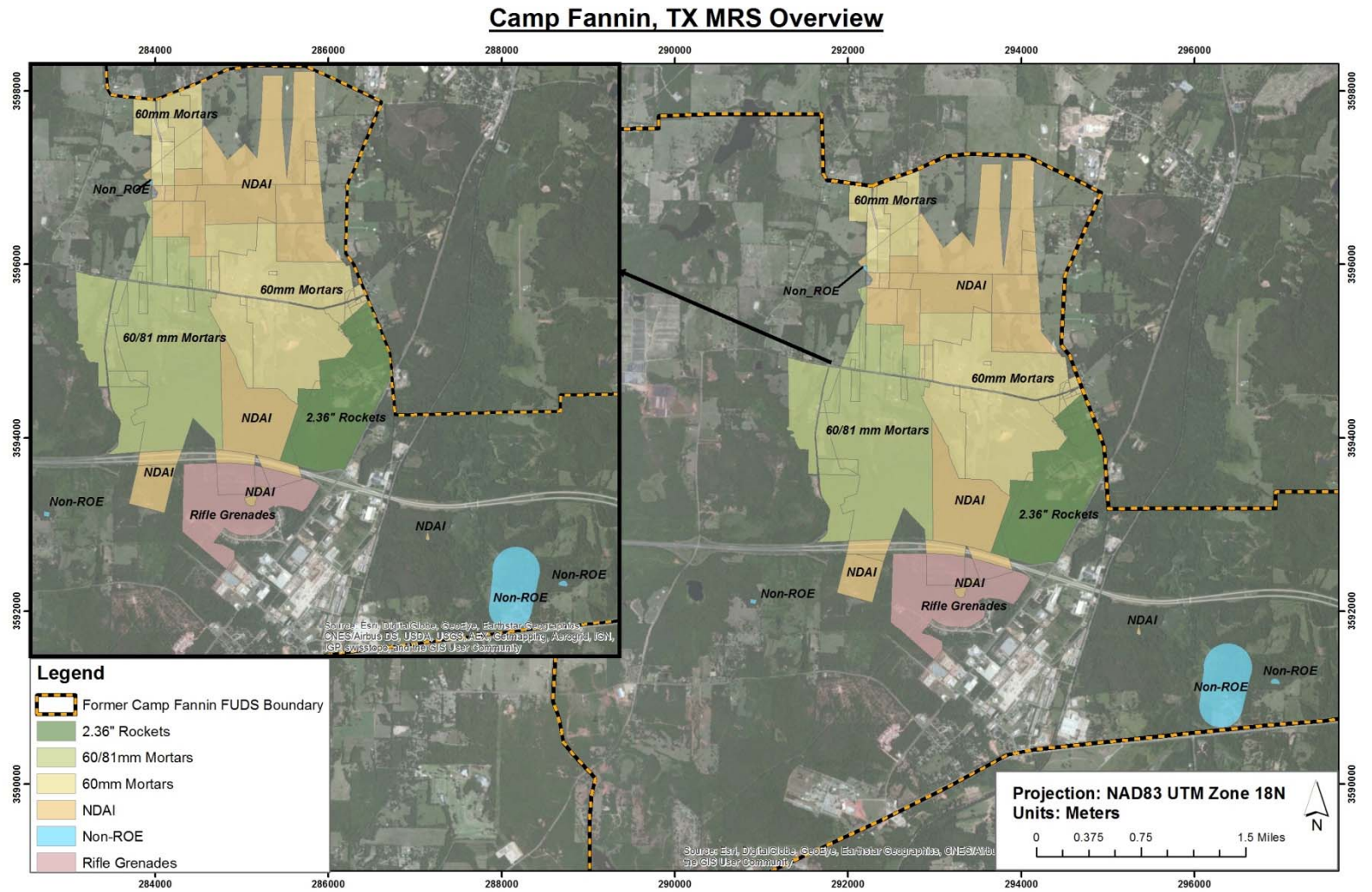
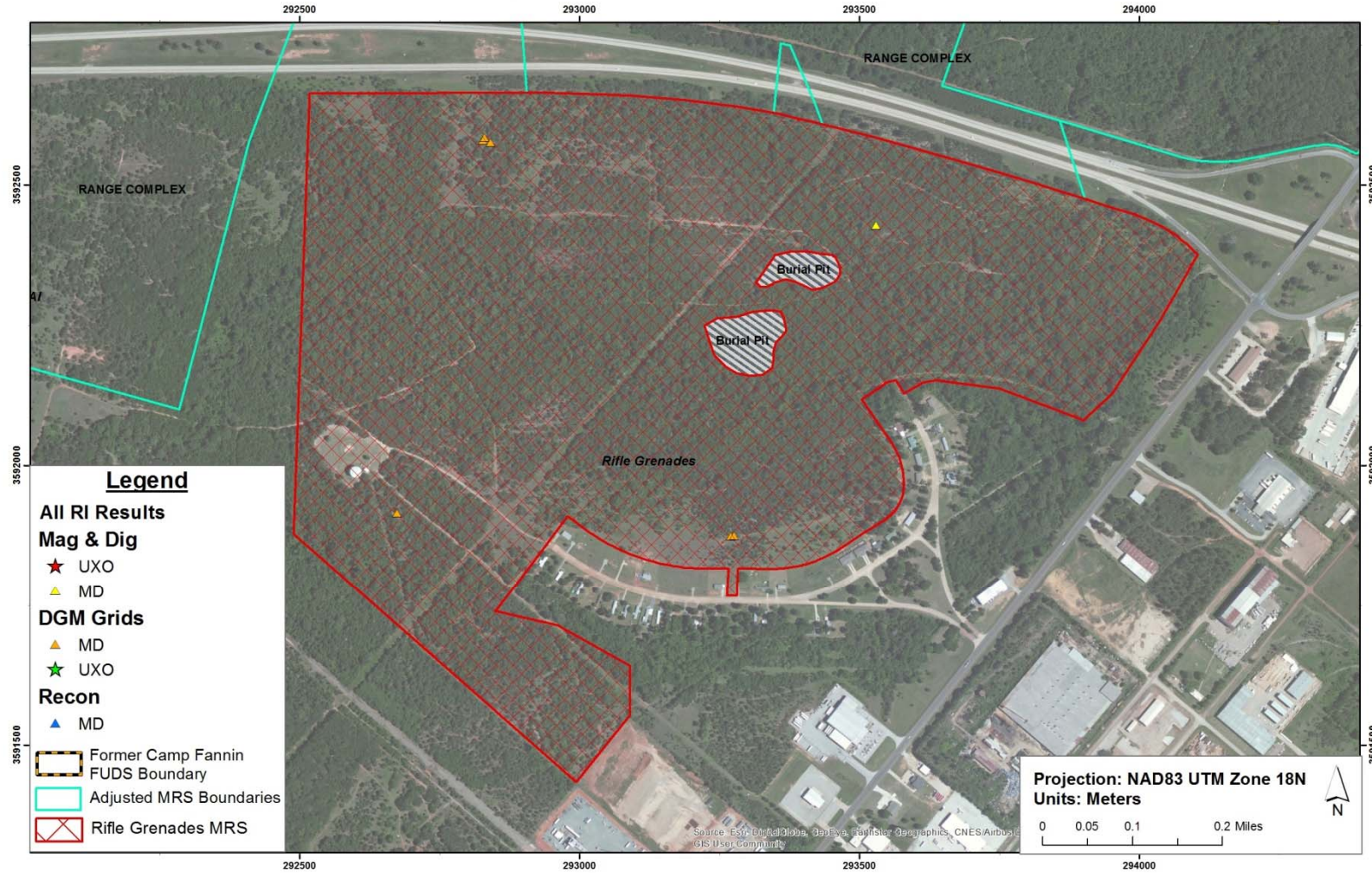




Figure 3: M9 Rifle Grenade Area MRS

**Camp Fannin, TX Rifle Grenades Area MRS**



The Burial Pits are part of the MRS 7- Investigated but No Response Required

## **4 DESCRIPTION OF SELECTED REMEDIES**

The lead agency has selected land use controls (LUCs) in the form of public education. The specific components of the selected remedy are:

- Implementation of LUCs, including MEC awareness training and educational programs (public education, including periodic educational awareness meetings, and fact sheets) and long term monitoring.

The M9 Rifle Grenade Area MRS is privately owned; and the bulk of the area is heavily vegetated and wooded. The current land use is residential, light agricultural (tilled plots and pastures), light commercial, and recreational (ponds and wooded areas are present). The land use is expected to remain the same for the foreseeable future.

This selected remedy effectively reduces the potential explosive hazards present at the M9 Rifle Grenade Range MRS by reducing the potential for direct contact with MEC by potential receptors through raising public awareness of potential MEC and educational programs that will inform the public of the dangers related to munitions and the appropriate response if MEC are encountered.

## **5 STATUTORY DETERMINATIONS**

Based on the information currently available, the selected remedy for the M9 Rifle Grenade Range MRS is protective of human health, safety, and the environment and satisfies the statutory requirements of CERCLA §121(b) with regard to the former use of the MRS by the DoD. The selected remedy is cost-effective and utilizes permanent solutions and alternative technologies to the maximum extent practicable. The selected remedy does not meet the statutory preference for treatment; however, this is considered acceptable because no source materials constituting a principal threat waste are present at the site. No ARARs were identified for this selected response.

Because this remedy will not allow for unlimited use and unrestricted exposure (UU/UE) at the MRS, a statutory review will be conducted in accordance with 40 Code of Federal Regulations (CFR) 300.430 (f) (4) (ii) within five years after initiation of remedial action to ensure that the remedy continues to be protective of human health, safety, and the environment and minimizes explosive safety hazards.

## **6 DATA CERTIFICATION CHECKLIST**

The following information is included or otherwise addressed in this Decision Document.

- A summary of the characterization of MEC hazards at the M9 Rifle Grenade Range MRS.
- Current and reasonably anticipated future land use assumptions for the site.
- Key factors that led to the selection of LUCs for the MRS.
- Estimated costs related to the selected remedy.
- How source materials constituting principal threats will be addressed.

Information on chemicals of concern (COCs) and their respective concentrations, associated baseline risk, and established cleanup levels is not included because the baseline risk assessment determined there are

no unacceptable risks to human health or the environment due to potential exposure to MC at the M9 Rifle Grenade Range MRS (Zapata, 2013a).

## 7 AUTHORIZING SIGNATURE

This DD presents the selected response action at the M9 Rifle Grenade Range MRS, for the Former Camp Fannin, Smith County, Texas. The USACE is the lead agency under the DERP at the Former Camp Fannin FUDS, and has developed this DD consistent with the CERCLA, as amended, and the NCP. This DD will be incorporated into the larger Administrative Record file for the Former Camp Fannin, which is available for public view at Tyler Public Library, 201 South College Avenue, Tyler, Texas 75702.

The estimated cost for the selected remedy at the M9 Grenade Area MRS is \$135,170.00. Additionally, because this remedy does not allow for UU/UE, five year reviews will be required. The estimated cost for conducting five year reviews for 30 years is \$358,020.00. Therefore, the estimated total cost for the selected remedy is \$493,190.00. This document, presenting the selected remedy with a present worth cost estimate of \$493,190.00 is approved by the undersigned, pursuant to Memorandum, CEMP-CED (200-1a), July 29, 2016, subject: *Redelegation of Assignment of Mission Execution Functions Associated with Department of Defense Lead Agent Responsibilities for the Formerly Used Defense Sites Program*, and to Engineer Regulation 200-3-1, FUDS Program Policy.

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PETE G. PEREZ, P.E.  
Director, Regional Business Directorate

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Date



## **PART 2 - DECISION SUMMARY**

### **1 SITE NAME, LOCATION, AND BRIEF DESCRIPTION**

The Former Camp Fannin is located in Smith County in east Texas. The town of Tyler, Texas, is approximately six miles southwest of the Former Camp Fannin. The Federal Facility Identifier (FFID) for Former Camp Fannin is TX9799F6486. The Former Camp Fannin has been identified by the USACE under the FUDS program as Site Number K06TX006105. There were originally five distinct Munitions Response Areas (MRAs) located within the Former Camp Fannin property. The Former Camp Fannin was modified during the 2009 realignment to include only the areas comprised of the five original MRAs, plus a newly-identified 145-acre grenade court for a new single MRA denoted as MRA R01, which is comprised of 2,351 acres. The data from the RI resulted in further delineation of MRA R01 into six recommended MRSs totaling 3,165 acres. This DD addresses only the 274-acre M9 Rifle Grenade Area MRS (Figure 3).

This DD is being presented by the USACE to describe the DoD selected remedy for the M9 Rifle Grenade Area MRS at the Former Camp Fannin FUDS in Smith County, Texas. The Secretary of Defense designated the Army as the Lead Agent for FUDS, regardless of which DoD component previously owned or used the property. The Secretary of the Army further delegated the program management and execution responsibility for FUDS to the USACE. The USACE is the executing agent for reporting, making remedial decisions, and taking remedial actions at the Former Camp Fannin. The supporting agencies for this project include EPA Region VI and TCEQ. The FUDS DERP is responsible for funding MEC response actions.

### **2 SITE HISTORY AND ENFORCEMENT ACTIVITIES**

#### **2.1 Site History**

The Former Camp Fannin was used from 1942 to 1946 for infantry training. Training included numerous rifle and pistol ranges (.22, .30, and .50 caliber), grenade ranges, mortar and rocket ranges, artillery training ranges (37mm to 105mm projectiles), anti-aircraft artillery, and tank gunnery training.

Prior to closure of the facility, a range clearance certificate, dated January 8, 1946, was issued by the Camp Ordnance Officer after sweeping the target impact areas and ranges for “duds and dangerous munitions.”

#### **2.2 Investigations Conducted to Date**

##### **2.2.1.1 *Inventory Project Report***

The USACE verified that the property was FUDS-eligible in a July 1986 Inventory Project Report (INPR) (USACE 1995). The INPR evaluates the reason for concern as MEC use.

##### **2.2.1.2 *Archives Search Report (September 1994)***

The 1994 Archives Search Report (ASR) and 2004 ASR supplement were prepared by the USACE, Saint Louis District, to evaluate the potential for MEC (USACE, 1994a, b and 2004). The ASR compiled information obtained through historical research at various archives and records-holding facilities, aerial

photography review, interviews with persons associated with the site, and a site inspection. All efforts were directed at determining the possible use or disposal of ordnance on the site. The USACE conducted the associated field inspection during the period 8 February through 11 February 1994.

### **2.2.1.3 Engineering Evaluation/Cost Analysis**

Although American Technologies, Inc. (ATI), began preparation of an Engineering Evaluation and Cost Analysis (EE/CA) under contract to the USACE, the EE/CA process was discontinued in favor of a RI/FS.

### **2.2.1.4 GIS-Based Historical Photographic Analysis**

In January 2004, the U.S. Army Engineer Research and Development Center, Topographic Engineering Center (TEC), completed a geographic information system (GIS)-based analysis of time-sequence aerial photographs of the Former Camp Fannin. Areas of potential concern (such as ground scars, trenches, ranges) were identified and mapped based on the analysis of historical aerial photographs. The TEC analysis is primarily based upon interpretation of black and white, vertical aerial photography spanning selected years from 1940 to 1950. The analysis integrated the results of stereo viewing of overlapping period photographs, when possible, with 1995 digital orthophoto mapping by the U.S. Geological Survey (USGS). Also, selected rectified images were created to support mapping and analysis for various years. TEC used ERDAS 8.5 software to rectify selected historical photos to the 1995 photomap of the site. The analysis employed ESRI's ArcView 3.2a software to digitize and create vector layers for the historical years (ERDC, 2004).

### **2.2.1.5 Remedial Investigation (RI) Report (2013)**

An RI was performed at the Former Camp Fannin to characterize the nature and extent of MEC and MC contamination and to gather data necessary to assess the risks posed to human health, safety, and the environment. Through completion of reconnaissance transects, Digital Geophysical Mapping (DGM) transects and grids, reacquisition and intrusive investigation of the anomalies within the DGM grids, and mag-and-dig transects, the results of the RI determined the extent of MD and MEC over the subject areas of the Former Camp Fannin FUDS, including the M9 Rifle Grenade Area MRS. No MEC was found in the M9 Rifle Grenade MRS during the course of the RI. However, MD associated with rifle grenades and hand grenades (cups and tail fins) was encountered on the surface. These items could be associated with munitions presenting an explosive hazard. As a result, the RI concluded that there is a potential for MEC to be present over the MRS on the surface and in the shallow subsurface. Therefore, the site poses a threat to public health, welfare, or the environment. Sampling of site media concluded that MC was not a concern at the site to either human health or the environment. There is also no evidence of chemical-configured ordnance items at the site. The RI concluded that an FS was required to evaluate appropriate munitions response alternatives for the M9 Rifle Grenade Area MRS.

### **2.2.2 Feasibility Study (FS) Report (2013)**

An FS was performed for the Former Camp Fannin, including the M9 Rifle Grenade Area MRS, to provide project decision makers with the necessary data to develop, screen, and evaluate a range of potential response alternatives to manage potential MEC hazards to human health and the environment. The FS developed and assessed two remedial alternatives for the MRS. The two alternatives were analyzed

against the nine NCP criteria and then compared against each other. The FS Report for the Former Camp Fannin was finalized in July 2013 (ZAPATA, 2013b).

### **2.2.3 Proposed Plan**

A Proposed Plan (PP) was produced to summarize and document the RI/FS and the selected response alternative. The PP was made available to the public on 8 July 2013, followed by a public meeting on 16 July 2013. The comments from the public received during the 30-day public comment period and at the public meeting are summarized in the Responsiveness Summary, which is contained in Section 3.0 of this DD.

### **2.3 CERCLA Enforcement Actions**

No CERCLA enforcement actions have taken place at the Former Camp Fannin.

## **3 COMMUNITY PARTICIPATION**

Community participation in the process leading to this DD falls into three categories: 1) dissemination of information to the community; 2) stakeholder involvement in the technical project planning (TPP) process; and 3) formal public comment period. These three areas are described in more detail below.

### **3.1 Information Dissemination**

The following activities were conducted to disseminate information to the community in the vicinity of the Former Camp Fannin:

- A Public Involvement Plan (PIP) was prepared in November 2008 to facilitate dialogue between the USACE and residents of the surrounding community regarding the RI/FS activities at the Former Camp Fannin.
- An Administrative Record file was established at the Tyler Public Library, and is located at the 201 S. College Ave. in Tyler, Texas. It currently contains past investigation reports, the RI Report, FS Report, and PP for the Former Camp Fannin.
- Fact Sheets and informational materials were prepared and distributed to property owners and tenants, citizen groups, environmental groups, area businesses, regulatory officials, elected/civic officials, and local and regional media to address concerns expressed by the local community and update the status of studies.
- Based on the consensus reached by the project planning team, a Proposed Plan (PP) was prepared for public review and comment. A newspaper announcement was published on 7, 10 and 14 July 2013 in the *Tyler Courier-Times Telegraph* and the *Tyler USA* newspapers to solicit public comments on the PP for Former Camp Fannin (Attachment 1).
- A public meeting to discuss the PP was held at the Winona High School in Winona, Texas, on 16 July 2013.
- Oral and written comments were solicited at the meeting and accepted during a Public Comment Period from 8 July 2013 through 9 August 2013. The USACE's responses to the comments received during the public comment period are included in the Responsiveness Summary, which is Part 3 of this DD.

## **4 SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION**

Originally, the Former Camp Fannin was one MRA in the FUDS Management Information System (FUDSMIS), and was comprised of approximately 14,093 acres. The 2009 realignment resulted in the MRA being reduced to 2,351 acres, which included five distinct feature-specific MRAs that were combined into one single MRA (R01). The RI Report recommended this single 2,351 acre MRA be delineated into six discrete MRSs totaling 3,165 acres based on historical use and the types of munitions-related items that were recovered. Although the supporting FS Report and PP pertain to all MRSs at the Former Camp Fannin, this DD focuses only on the M9 Rifle Grenade Area MRS, which is comprised of 274 acres. The other Former Camp Fannin MRSs are addressed in separate DDs.

The Selected Remedy for the M9 Rifle Grenade Area MRS is land use controls (LUCs) with long term monitoring. This remedy is expected to reduce the potential for receptor interaction with MEC in areas utilized by the public and the land owners. Potential surface receptors include residents, recreational users, agricultural workers, and commercial workers. Potential subsurface receptors include residents, agricultural workers, and construction workers. The remedy will also provide land users with information on past military-related activities and information regarding appropriate responses, if munitions are encountered.

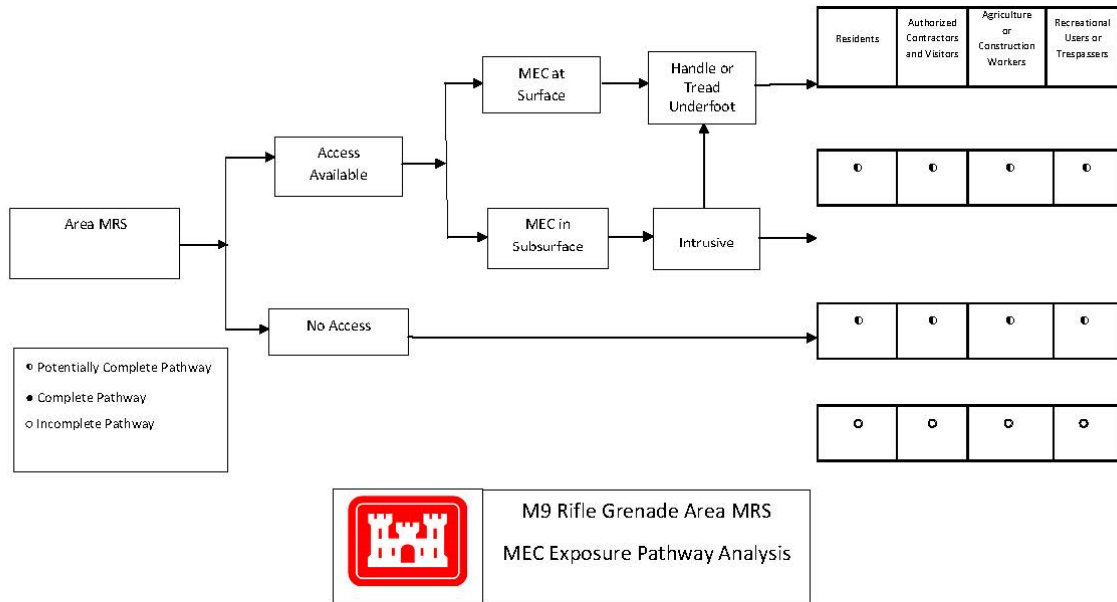
## **5 MRS CHARACTERISTICS**

### **5.1 Conceptual Site Model**

A conceptual site model (CSM) is a representation of a site and its environment that is used to facilitate understanding of the site and the potential contaminant exposure pathways that might be present. The CSM (see figure 4) describes potential contamination sources and their known or suspected locations, human and/or ecological receptors present, and the possible interactions between the two.

Because the baseline risk assessment completed as part of the RI demonstrates that adverse health effects from human and ecological exposure to MC in soil at the Former Camp Fannin are not expected, all MC exposure pathways in the CSM are considered to be incomplete for the M9 Rifle Grenade Area MRS. Since MD was observed at the M9 Rifle Grenade Area MRS during the RI, pathways are considered potentially complete for all receptors.

Figure 4: MEC Conceptual Site Model



## 5.2 Physical Setting

The Former Camp Fannin is located in the geographical area of East Texas known as the "Piney Woods", about half-way between Dallas, Texas, and Shreveport, Louisiana. The terrain is mostly forested, gently rolling hills, dotted with ranches, lakes, and pastures. Smith County spreads over 932 square miles of the East Texas Timberlands region, with two-thirds of this environment covered in post oak, blackjack oak, and tall grasses; and one-third is heavily forested with pine and hardwoods. The elevation ranges from 300 to 600 feet above sea level (Tyler Texas Info, 2010). All of the properties within the Former Camp Fannin FUDS boundary are currently privately owned.

Small bodies of water, such as farm ponds (both natural and man-made), are present, including in the subject MRS. Wiggins Creek bisects the site from east to west just north of U.S. Interstate I-20. The area is well drained, generally to the north-northwest, with no wetlands except along the creek banks and lakesides.

According to an in-depth study conducted in 2004 (Skelly and Loy, 2004), there are three previously recorded archaeological sites within the 14,093 acre Former Camp Fannin site boundaries. Because of the sensitive nature of archaeological site location information, and in accordance with the Texas Historic Sites Atlas restricted access agreement, these site locations will not to be released to the public.

There are no National Register of Historic Places (NRHP)-listed or -eligible properties located in the project boundaries (Skelly and Loy, 2004). Two locations in the Texas Historic Sites Atlas fall within the Former Camp Fannin FUDS boundaries, including the historical marker for Camp Fannin and the historical marker for Nicholas Wren. The first is located on State Highway 271, near the old gate to the Former Camp Fannin. The second marker, for Nicholas Wren, is located in the churchyard of the Harris Creek Baptist Church. The Camp Fannin marker is within the buffer for the cantonment area and the Nicholas Wren marker is within the buffer for the Harris Creek Baptist Church and Cemetery (Skelly and Loy, 2004).

### **5.3 Investigation of MEC**

During the RI activities, several methods were used to determine MEC and/or MD density including:

- Analog instrument assisted ground reconnaissance transects completed in September through October, 2009, in an east-west orientation over large portions of the Former Camp Fannin FUDS property outside of the MRA R01 boundaries.
- DGM transects completed in August through November, 2009, in predominantly a north-south orientation mostly in and immediately surrounding the Range Complex.
- Establishing and completing DGM surveys within grids in 2010 based on the results of the DGM transects.
- Reacquisition and intrusive investigation of the anomalies within the grids using ferrous and non-ferrous metal detectors.
- Mag-and-dig transects completed in February through April, 2010, in predominantly a north-south orientation mostly in and immediately surrounding the Range Complex.
- East-west analog instrument assisted ground reconnaissance transects and north-south mag-and-dig transects in early 2011, to fill data gaps in areas where Right of Entry (ROE) agreements could not be obtained in time for the 2009-2010 field season.

### **5.4 Investigation of MC**

MC sampling was also conducted to support the RI; incremental soil samples, and discrete surface water and sediment samples were collected from the site. However, as previously mentioned, there were no identified risks to human health or the environment. All MC analytical data were compared to conservative risk-based screening criteria to determine whether any MC required further evaluation in a human and/or ecological risk assessment. The results of this screening level assessment demonstrated that all MC concentrations were below screening levels that would trigger the need for further risk assessment; therefore, MC are not considered to pose any potential unacceptable human or ecological risks at the MRS.

### **5.5 Types of Contamination and Affected Media**

Only a small number of MD items related to M9 Rifle grenades (fins) and hand grenades (cups) were found on the surface within the M9 Rifle Grenade Area MRS. No MEC items were located. RI fieldwork was successful in determining the nature and extent of the MEC contamination in the M9 Rifle Grenade Area MRS.

## **5.6 Location of Contamination**

The locations of identified MD are shown on Figure 3. No MEC was found in the M9 Rifle Grenade MRS during the course of the RI. However, MD associated with rifle grenades and hand grenades (cups and tail fins) was encountered on the surface. These items could be associated with munitions presenting an explosive hazard. Therefore, the potential remains that MEC could be found in the future.

## **5.7 Migration/Exposure Routes and Potential Receptors Present**

Several factors influence the possible migration of MEC from the site. Because of the number of individuals using the site properties for residential, light commercial or light recreational purposes, the possibility exists for human activity resulting in redistribution of MEC items. Another factor involves the movement of smaller MEC items by overland water flow, particularly in drainages and low-lying areas subject to periodic flooding and erosion, which may unearth previously buried MEC items. Figure 4 presents the CSM for MEC for the M9 Rifle Grenade Area MRS presenting the potential source, interaction, and receptors.

## **5.8 Potential MEC Exposure Pathways**

Potential exposure to MEC contamination in soil could occur via direct contact of receptors to MEC contamination present in surface or subsurface soil. As described above, potential receptors that could interact with these pathways include residential, light agricultural/commercial and recreational (e.g., hunting, fishing, and hiking) uses. These receptors would most typically be in contact with soil on the ground surface and within the first foot (12 inches) bgs.

# **6 CURRENT AND POTENTIAL FUTURE LAND USES**

Current land use for the M9 Rifle Grenade Area MRS at the Former Camp Fannin is a combination of residential, light agricultural, light commercial, and recreational. Recreational activities may include hunting, fishing, and hiking.

Future land use at the M9 Rifle Grenade Area MRS is not expected to change appreciably from their current uses.

# **7 SUMMARY OF PROJECT SITE RISKS**

## **7.1 Human Health Risks**

The results of the environmental sampling indicated that no MEC-related contaminants were present at concentrations of concern. All analytes were below applicable screening criteria and no potential unacceptable human or ecological health risks are expected due to MC in the referenced MRS media.

## **7.2 MEC Hazard Assessment (MEC HA)**

Based on the findings at the Former Camp Fannin, MEC hazard assessments (HAs) were performed to qualitatively characterize the potential MEC hazards at select MRSs. The MEC HA method generates a score and a corresponding "Hazard Level" ranging from 1 (highest) to 4 (lowest) that provides a qualitative indication of the MEC hazard in each area (these are not quantitative measures of explosive hazard). Because no MEC has been found within the M9 Rifle Grenade Area MRS, the MEC HA could not be completed; however, a qualitative risk evaluation was completed during the RI. This evaluation

considered all elements of risk and based on MD found within the MRS, which is an indicator of potential MEC, concluded there is low risk related to MEC at the M9 Rifle Grenade Area MRS.

### **7.3 Basis for Response Action**

Based on the results from the RI and the assessments of MC hazards summarized above, no MC risks are anticipated for the current or future human or ecological receptors at the M9 Rifle Grenade Area MRS. However, based on the MD observed during the RI, there is a low potential MEC hazard to future residents at privately owned properties, and commercial and recreational receptors at the M9 Rifle Grenade Area MRS. Consequently, an FS was completed to assess possible remedial action alternatives for addressing MEC hazards at the M9 Rifle Grenade Area MRS.

## **8 REMEDIAL ACTION OBJECTIVES**

The general Remedial Action Objective (RAO) at the Former Camp Fannin is to limit exposure to potential hazards/risks for site workers/visitors, residents, recreational users, and ecological receptors, resulting from exposure to MEC and MC at the site. However, no unacceptable risk posed by exposure to MC was identified at the Former Camp Fannin, so no RAOs are required for MC at the MRS. The specific RAO for the M9 Rifle Grenade Area MRS is to minimize direct contact with MEC during receptor activities (e.g., residential, light agricultural, light commercial and recreational) on the ground surface, and to a maximum anticipated receptor contact depth of 1 ft. Future land use is expected to remain similar to the current land use.

## **9 DESCRIPTION OF ALTERNATIVES**

A range of general response actions were identified, evaluated, and screened to develop a list of possible remedial alternatives for the Former Camp Fannin MRSs. The general response actions evaluated at the M9 Rifle Grenade Area MRS were no action and LUCs. The No Action alternative refers to a remedy where no active remediation or enforceable LUCs are implemented. Under CERCLA, evaluation of a No Action alternative is required to provide a baseline for comparison to other remedial technologies and alternatives. A detailed description of the alternative development process is provided in the FS for the Former Camp Fannin. It should be noted that no alternative was evaluated that would be considered to reasonably achieve Unrestricted Use/Unlimited Exposure (UU/UE) for the MRS due to the infeasibility of completing a response that would achieve this status.

### **9.1 Remedy Components**

The major components of each alternative are described below:

#### **9.1.1 Alternative 1: No Action**

The No Action alternative (also referred to as No Further Action under CERCLA) has no major components because it means that a remedy will not be implemented to reduce the potential safety risks posed by MEC interaction with human receptors.

#### **9.1.2 Alternative 2: Land Use Controls**

Alternative 2 employs the use of LUCs to prevent explosive hazard exposure to potential human receptors. LUCs for MEC generally include physical and/or administrative/legal mechanisms that



minimize the potential for exposure by increasing awareness and limiting land use. This process does not prevent exposure to MEC in all cases; however, it can effectively prevent exposure by increasing awareness in areas where MEC may potentially be present. The LUCs for Alternative 2 include the following:

- Periodic educational awareness meetings, fact sheets, and letters to landowners.
- An educational awareness program, which would focus on providing information on the areas containing the MEC hazards and the appropriate response if MEC is encountered.
- These preventive measures would include periodic educational public meetings and educational fact sheets that have the goal of modifying behavior to reduce the risk of exposure and reduce the impact if exposure occurs.
- Fact sheets and educational materials can be distributed through the community as posted notices or handouts.

## **9.2 Five-Year Reviews**

Because these alternatives do not allow for unlimited use/unrestricted exposure (UU/UE), in accordance with 40 Code of Federal Regulations (CFR) 300.430(f)(4)(ii), five-year reviews will be performed in addition to the selected remedial action, to ensure that the remedy remains protective of human health and the environment. A Five-Year Review Report will document the information collected and evaluated, and present the findings of the evaluation of the continued protectiveness of LUCs at the M9 Rifle Grenade Area MRS. The report will document whether the selected alternative continues to minimize explosive safety risks and is still protective of human health, safety, and the environment and/or recommend follow-up actions that may be warranted.

## **9.3 Expected Outcomes of Each Alternative**

There are no socioeconomic or community revitalization impacts anticipated as a result of implementing any of the alternatives, and no environmental or ecological benefits (such as restoration of sensitive ecosystems, protection of endangered species, protection of wildlife resources, or wetlands restoration) as a result of implementing any of the alternatives.

### **9.3.1 Alternative 1: No Action Alternative**

No further action is conducted under this alternative to locate, remove, dispose of, or limit exposure to any potential MEC. No institutional controls (e.g., education, deed notices, construction permits, etc.) are implemented. No costs are associated with this alternative since there would be no action. Evaluation of this alternative is required and used as a baseline for comparison with other alternatives. This alternative does not meet the RAOs or effectiveness screening criteria for the M9 Rifle Grenade Area MRS because there is a potentially complete MEC pathway.

### **9.3.2 Alternative 2: Land Use Controls**

The LUC alternative requires that an educational program be implemented to warn of the potential explosive hazards associated with the site. Educational materials would be provided on a periodic basis. The LUC alternative would provide for reasonable protection of human health and the environment

through education of site risks. This alternative is effective in both the short- and long-term because it reduces the potential for human receptors to encounter MEC at the MRS. There is no source reduction of MEC associated with this alternative. The remedy effectively reduces the potential for direct contact with MEC by receptors through raising public awareness of the potential dangers related to munitions and the appropriate response if MEC are encountered. The LUC alternative can be implemented easily as no specialized equipment or personnel are required.

## 10 COMPARATIVE ANALYSIS OF ALTERNATIVES

### 10.1 Evaluation Method

A detailed analysis was completed for the various remedial alternatives developed to address the potential MEC hazards at the M9 Rifle Grenade Area MRS. The purpose of this detailed analysis was to evaluate and compare the range of remedial action alternatives against the baseline condition (no action) to select one preferred alternative that was considered the most suitable to address the risks present. A detailed account of this analysis is provided in the FS for the Former Camp Fannin (Zapata, 2013b). A summary of this process is provided here.

The detailed analysis involved evaluating each identified remedial alternative against nine criteria, as defined by CERCLA. These nine criteria fall into three groups: threshold criteria, primary balancing criteria, and modifying criteria. A description and purpose of the three groups of criteria follows:

- **Threshold criteria** are requirements that each alternative must meet in order to be eligible for selection and include (a) overall protectiveness of human health and the environment and (b) compliance with ARARs.
- **Primary balancing criteria** are used to weigh major trade-offs among alternatives and include (a) long-term effectiveness and permanence, (b) reduction of toxicity, mobility, or volume of contaminants through treatment, (c) short term effectiveness, (d) implementability, and (e) cost.
- **Modifying criteria** include (a) state/support agency acceptance and (b) community acceptance, and require review of the remedial alternatives by stakeholders. For this reason, while these criteria may be considered to the extent that information is available during the FS, they can only be fully considered after public comment is received on the Proposed Plan. In the final balancing of trade-offs between alternatives upon which the final remedy selection is based, modifying criteria are equally important as the balancing criteria.

The details of the nine evaluation criteria are explained further in Table 3 below. A summary of the evaluation of the threshold and primary balancing criteria, applied to the alternatives applicable to the M9 Rifle Grenade Area MRS, is provided in Table 4 and the estimated costs to implement the alternatives are presented in Table 5. Further details regarding this evaluation are provided in the *Final FS Report for the Former Camp Fannin* (Zapata, 2013b).

**Table 1: Summary of Evaluation Criteria for Remedial Alternatives**

<p><b>Overall Protection of Human Health and the Environment</b> addresses whether a remedial alternative will achieve adequate protection of human health and the environment and describes how MEC at the site will be eliminated, reduced, or controlled through treatment, engineering, and/or LUCs. Because there is not an established threshold for MEC hazard, the goal is to effectively minimize or eliminate the exposure pathway between the MEC and receptor.</p>
<p><b>Compliance with ARARs</b> addresses whether a remedial alternative meets all applicable, appropriate, or relevant selected federal and state environmental statutes and regulations. To be acceptable, an alternative shall comply with ARARs or be covered by a waiver. No ARARs were identified for the evaluated alternatives.</p>
<p><b>Long-Term Effectiveness and Permanence</b> addresses the ability of a remedial alternative to maintain reliable protection of human health and the environment over time. This criterion considers the magnitude of residual hazard, the adequacy of the response in limiting the hazard, and whether LUCs and long-term maintenance are required.</p>
<p><b>Reduction of Volume, or Removal, of MEC</b> relates to the extent to which the remedial alternatives permanently reduce the volume of MEC and reduces the associated safety hazard. Factors for this criterion for MEC include the degree of permanence of the remedial action, the amount of MEC removed/demolished, and the type and quantity of MEC remaining.</p>
<p><b>Short-Term Effectiveness</b> addresses the period of time needed to implement the remedy and any adverse impacts that may be posed to workers, the community, and the environment during implementation. MEC removal poses risks to workers and the public that are not associated with environmental contaminants that must be considered and controlled.</p>
<p><b>Implementability</b> refers to the technical and administrative feasibility of implementing each Alternative and the availability of services and materials are addressed by this criterion. This criterion also considers the degree of coordination required by the regulatory agencies, successful implementation of the remedial action at similar sites, and research to realistically predict field implementability.</p>
<p><b>Cost</b> addresses the capital costs, in addition to annual costs anticipated for implementation of the response action.</p>
<p><b>Regulatory Acceptance</b> is used to evaluate the technical and administrative concerns of the regulatory community regarding the alternatives, including an assessment of the regulatory community's position and key concerns regarding the alternative, and comments on ARARs or the proposed use of waivers.</p>
<p><b>Community Acceptance</b> includes an evaluation of the concerns of the public regarding the alternatives. It determines which component of the alternatives interested persons in the community support, have reservations about, or oppose.</p>

**Table 2: Detailed analysis of Alternatives for M9 Rifle Grenade Area MRS**

<b>Criteria</b>		<b>Alternative 1: No Action</b>
Threshold Criteria	Overall Protection of Human Health and the Environment	This alternative is not protective of human health or the environment because it does not mitigate risk associated with the potential presence of MEC.
	Compliance with ARARs	No ARAR's were identified for this alternative.
Primary Balancing Criteria	Short-term Effectiveness	Does not meet short-term effectiveness requirements (does not remove or reduce exposure to MEC)
	Long-term Effectiveness	Does not meet long-term effectiveness requirements (does not remove or reduce exposure to MEC)
	Reduction of Toxicity, Mobility, or Volume	No reduction in volume as no MEC removal would take place.
	Implementability	Highly implementable because no remedial action occurs.
	Cost Estimate (Net Present Value [NPV])	No cost associated with this alternative.
Modifying Criteria	Regulatory and Community Acceptance	TCEQ does not concur with Alternative 1 as no actions are associated with this alternative to address hazards at the site. As described in Part 3 of this Decision Document, no comments pertaining to any of the alternatives were received during the public comment period.
<b>Criteria</b>		<b>Alternative 2: Land Use Controls</b>
Threshold Criteria	Overall Protection of Human Health and the Environment	This alternative protects human health and the environment by educating potential receptors about the explosive hazards associated with MEC.
	Compliance with ARARs	No ARAR's were identified for this alternative.
Primary Balancing Criteria	Short-term Effectiveness	Implementation of LUCs effective in short-term. Reduction of MEC explosive hazard to residents/landowners through education.
	Long-term Effectiveness	Chance for accidental exposure will increase, if intrusive work performed. Will require follow-up to achieve long-term effectiveness.
	Reduction of Toxicity, Mobility, or Volume	No reduction in volume as no MEC removal would take place.
	Implementability	Administratively feasible; moderate technical effort required for implementation
	Cost Estimate (NPV)	Total cost is \$493,190; Low or minimal costs to implement relative to other alternatives evaluated.
Modifying Criteria	Regulatory and Community Acceptance	TCEQ does not concur with Alternative 2 as deed restrictions are not included as a LUC (see Section 10.3). As described in Part 3 of this Decision Document, no comments pertaining to any of the alternatives were received during the public comment period.

**Table 3: M9 Rifle Grenade Area MRS Cost Analysis Table**

Alternative	Capital (\$)	O&M		Total (\$)
		Recurring Costs (\$/time) (30 years)	Present Worth* (\$)	
1. No Further Action	\$0	\$0	\$0	\$0
2. LUCs	\$27,870	\$3,576.67/year over 30 years (Educational Materials and MEC Awareness Training)	\$316,152	\$493,190
		\$59,670/5 years over 30 years (5-Year Review Reports)		

\*2.7% Real Interest Rate, OMB Circular A-94, Appendix C, December 2009

**10.2 Evaluation Summary**

The two alternatives were evaluated in terms of the nine criteria (Table 1 above). Table 2 above summarizes the evaluation and identifies the most practicable solution for reducing the potential MEC exposure hazard at the MRS.

**Alternative 1** – Alternative 1 must be ruled out for the M9 Rifle Grenade Area MRS at the Former Camp Fannin because it is ineffective in long-term permanence. Alternative 1 provides no source reduction or reduction of future risk, and is therefore the least protective of human health and the environment. Alternative 1 provides no reduction of source area toxicity, mobility, or volume. Because no actions are required for Alternative 1, it is highly implementable, could be implemented immediately, and there would be no short-term risks associated with implementation. There are no costs associated with this alternative.

**Alternative 2** – Alternative 2 is protective of human health and the environment by reducing risk to potential receptors through education. The MEC source and its toxicity, mobility, or volume will not be reduced and it is easily implementable with moderate technical effort required. Costs for this alternative are low relative to other alternatives evaluated.

**10.3 State Acceptance**

TCEQ has requested that LUCs at the Former Camp Fannin include the following, "A legal instrument be placed in the property records... which indicates the limitations on or the conditions governing use of the property which ensures protection of human health and the environment (Texas Administrative Code §350.4(a)(47) as well as §350.11 (Subchapter F))". Due to the exclusion of the aforementioned request due to USACE limitations, TCEQ has stated, "Unless some compromise or agreement is reached that brings

in deed recordation as an [sic] LUC for this site, in some form or degree, TCEQ will not be able to sign off on the RI/FS, Proposed Plan for Munitions Response Actions, or closure of the site.” USACE has no authority to implement legal instruments at FUDS; therefore, since the inclusion of the requested legal instrument is not implementable it is not included as part of any remedial alternative.

#### **10.4 Community Acceptance**

As described in Part 3 of this Decision Document, no comments pertaining to any of the alternatives were received during the public comment period, with the exception of those received during the public meeting. After the Decision Document is signed, USACE shall publish a notice of the availability of the Decision Document in the *Tyler Courier-Times Telegraph* and the *Tyler USA* newspapers and make the Decision Document available for public inspection and copying at the Tyler Public Library, 201 South College Avenue, Tyler, Texas, prior to the beginning of any remedial action.

### **11 PRINCIPAL THREAT WASTES**

As discussed in the prior sections of this Decision Document, potential hazards from MEC were identified at the M9 Rifle Grenade Area MRS. There are no materials constituting principal threats related to MC at the M9 Rifle Grenade Area MRS.

### **12 SELECTED REMEDY**

#### **12.1 Rationale for the Selected Remedy**

The Selected Remedy for the M9 Rifle Grenade Area MRS at the Former Camp Fannin is Alternative 2 – LUCs and long term monitoring. This alternative meets the RAOs by informing the resident/landowner or other members of the public of the dangers and reporting related to ordnance which will minimize explosive risks pertaining to encounters with potential MEC. Implementation of LUCs is effective in the short-term using educational programs and MEC awareness training. The protection for this MRS will be increased through the implementation of this alternative in the long-term. Alternative 2 is technically and administratively feasible to implement. Costs are high compared with No Further Action, but relatively low compared to similar projects that require removal actions at project sites that contain known MEC. No ARARs were identified for this alternative.

The USACE believes that Alternative 2 is protective of human health and the environment and satisfies most of the statutory requirements of CERCLA §121(b), to: (1) be protective of human health and the environment; (2) comply with ARARs (none identified for this alternative); and (3) be cost effective. Although the alternative will not satisfy the remaining two criteria, (4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and (5) satisfy the preference for treatment as a principal element; these criteria are not applicable to the MRS since no MEC was found during the RI.

#### **12.2 Description of the Selected Remedy**

Alternative 2 – LUCs include periodic MEC Recognition Training for all interested members of the public, and production and distribution of educational materials including pamphlets, flyers, and information circulars.

Five-Year Review Reports are a requirement for alternatives not allowing for UU/UE in accordance with 40 CFR 300.430(f)(4)(ii). These reports will document whether the response action continues to minimize explosive safety risks and is still protective of human health, safety, and the environment and/or recommend follow-up actions that may be warranted.

### **12.3 Cost Estimate for the Selected Remedy**

The information in the cost estimate summary table below (Table 4) is based on the best available information regarding the anticipated scope of the selected remedy. The total estimated cost for the selected remedy (including FYRs) is \$493,190.00. Changes in this cost estimate are likely to accrue as a result of new information. Major changes may be documented in the form of a memorandum in the Administrative Record file, an Explanation of Significant Difference (ESD), or a Decision Document amendment. This is an order-of-magnitude cost estimate that is expected to be within +50 to -30 percent of the actual project cost. Cost savings could be realized by having one combined public education program for the entire Former Camp Fannin.

**Table 4: Cost Estimate Summary for the Selected Remedy**

<b>Task</b>	<b>DESCRIPTION</b>	<b>Total*</b>
Alt 2	<b>Alt 2 - Land Use Controls: Educational Material</b>	
	Contractor Cost (Labor, Supplies, and Travel)	\$ 35,450.00
	Government Cost (30% of Contractor Cost)	\$ 10,640.00
	Subtotal	\$ 46,090.00
	Contingency (20% of Subtotal)	\$ 9,220.00
	<b>Total</b>	<b>\$ 55,310.00</b>
Alt 2	<b>Alt 2 - Land Use Controls: Community Relations Plan</b>	
	Contractor Cost (Labor, Supplies, and Travel)	\$ 17,860.00
	Government Cost (30% of Contractor Cost)	\$ 5,360.00
	Subtotal	\$ 23,220.00
	Contingency (20% of Subtotal)	\$ 4,650.00
	<b>Total</b>	<b>\$ 27,870.00</b>
Alt 2	<b>Alt 2 - Land Use Controls: MEC Awareness Training</b>	
	Contractor Cost (Labor, Supplies, and Travel)	\$ 33,320.00
	Government Cost (30% of Contractor Cost)	\$ 10,000.00
	Subtotal	\$ 43,320.00
	Contingency (20% of Subtotal)	\$ 8,670.00
	<b>Total</b>	<b>\$ 51,990.00</b>
Alt 2	<b>Long Term Management (5-yr reviews)</b>	
	Contractor Cost (Labor, Supplies, and Travel)	\$ 38,240.00
	Government Cost (30% of Contractor Cost)	\$ 11,480.00
	Subtotal	\$ 49,720.00
	Contingency (20% of Subtotal)	\$ 9,950.00
	Subtotal	\$ 59,670.00
	<b>6 Reviews Present Worth</b>	<b>\$ 358,020.00</b>
	<b>GRAND TOTAL</b>	<b>\$ 493,190.00</b>

Note: The 20% contingency multiplier takes into consideration cost impacts due to changes in rates, overhead direct costs (ODCs) and stakeholder requirements.



#### **12.4 Expected Outcomes of the Selected Remedy**

Alternative 2 is expected to allow the M9 Rifle Grenade Area MRS to be used as it is currently used. Future land use is expected to remain as current land use. LUCs will educate and inform the public about the potential explosive risks of finding MEC. LUCs will provide additional protectiveness for all potential receptors.

There are no socioeconomic or community revitalization impacts anticipated as a result of implementing the selected remedy, nor are there any significant expected environmental or ecological benefits as a result of implementing the selected remedy.

### **13 STATUTORY DETERMINATIONS**

Based on the information currently available, the selected remedy for the M9 Rifle Grenade Area MRS (LUCs and long term monitoring) is protective of human health and the environment and satisfies the statutory requirements of CERCLA §121(b) with regards to the former use of the MRS by the Army and DoD. The selected remedy is cost-effective and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable. No Federal or State ARARs were identified for this alternative.

Because this remedy will not allow for unlimited use and unrestricted exposure at the MRS, a statutory review will be conducted within five years after initiation of remedial action to ensure that the remedy continues to be protective of human health, safety, and the environment and minimizes explosive safety hazards. If new information arises concerning contamination conditions at the site, or if land uses change beyond what has been assumed, the evaluation of remedial alternatives may need to be revisited.

### **14 DOCUMENTATION OF SIGNIFICANT CHANGES FROM PREFERRED ALTERNATIVE OF PROPOSED PLAN**

The selected remedy described in this Decision Document (LUCs) is unchanged from that of the preferred alternative detailed in the *Final Proposed Plan for the Former Camp Fannin* (Zapata, 2013c).

## **PART 3 - RESPONSIVENESS SUMMARY**

### **1 Stakeholder Issues and Lead Agency Responses**

#### **1.1 Regulatory Concurrence and Comment**

The *RI/FS Report for Former Camp Fannin* (Zapata, 2013a) and *Proposed Plan for Former Camp Fannin* (Zapata, 2014c) were submitted to TCEQ for review and comment. TCEQ made one comment regarding the general implementation of LUCs at the Former Camp Fannin. The comment and response are provided below:

**Comment:** “Land Use Controls: In addition to signage, training, and education, the State of Texas requires a legal instrument be placed in the property records .... which indicates the limitations on or the conditions governing use of the property which ensures protection of human health and the environment (Texas Administrative Code §350-4(a)(47) as well as §350.11(Subchapter F)).”

The purpose of the controls are to provide permanent notice of actual and/ or potential hazards associated with the property and to inform potential landowners and users of conditions to ensure protective property use.

“These legal instruments range from deed notices, restrictive covenants, and equivalent zoning or government ordinance that would be functionally equivalent to a deed notice. Although the munitions constituents (MC) may be controlled on site, MEC will never be 100% certain of removal. More is needed to notify the public of the potential hazards of owning and using the property.”

**Response:** “The TAC provisions require that a legal instrument in the form of a deed notice, Voluntary Cleanup Program Certificate of Completion, or restrictive covenant be placed in the appropriate property records. However, the Former Camp Fannin property is privately owned and USACE has no authority to place restrictions on that property. TAC 350.111 specifically requires landowner consent for the requested property restrictions. Moreover, the statute specifically states that restrictive covenants shall be executed only by the landowner. While TCEQ may have the regulatory authority to override a landowner, USACE does not.

Accordingly, USACE is unable to agree to your request to include TAC §350.11[1] (Subchapter F) in the FS as a proposed ARAR.”

## **1.2 Public Comment**

The USACE also made the Proposed Plan for the Former Camp Fannin MRSs available for public comment between 08 July and 19 August 2013. This public comment period was announced through a notice placed in the *Tyler Courier-Times Telegraph* and the *Tyler USA* newspapers (Attachment 1). No written comments were received during the public comment period.

In addition, a public meeting was held on 16 July 2013, at the Winona High School in Winona, Texas. At the public meeting, the results of the RI were summarized, the alternatives considered were described, and the alternative preferred by USACE was presented. The audio of the meeting was recorded, and a summary of the questions submitted by the public during the meeting and the USACE response are presented below. The meeting transcript has been placed in the Administrative Record at the Tyler Public Library, Tyler, Texas.

### **Overview of Oral Questions at 16 July 2013 Public Meeting**

**Comment:** “How are you doing? My name is Don Walsh. My property is where the Chest Hospital is now. There is 360 acres there. We were not afforded the opportunity to buy it back. And everybody knows why -- it's called Owentown. It's because the State of -- or the City of Tyler sold it to a banker out of Dallas. His name was Owen. They made it Owentown. The people that had the land taken from them did not have an opportunity to buy it back. That land was bought for \$35 an acre. If you will straighten out this history, I'll tell you where the tank is out there.”

**Response:** An Army tank would not present an explosive hazard.

**Comment:** “One thing that concerns me, and I imagine everybody else, you used the term EPA. I'm fearful of those people. Those people have Executive Order power behind them. And, also, land use

control. I would like for you to expand on what that term means.”

**Response:** There are three general types of “land use controls”: legal mechanisms, engineering controls, and education programs. The type of land use controls we are proposing here are educational. To implement legal mechanisms or engineering controls would require permission from the owner of the property and that is not feasible for this project. Educational programs might consist of fact sheets, MEC awareness training and/or safety training. The purpose is to inform the public of the risk of MEC and what to do in the event a possible MEC item has been found.

**Comment:** “I work for the Water Department, and I'm curious if you [sic] a hundred percent confident that you found everything? Because we dig almost every day and if we hit something and blow up -- do you see what I'm saying? I've been here 20 years, and we have taken a chance for that long until y'all came in and decided to clean the area. How confident are you that it's good to go, as far as the munitions?”

**Response:** Based on the results of our investigation across the site, it has been determined that an explosive hazard does exist at Camp Fannin. The educational and/or safety training that will be implemented with the selected alternative can be utilized by all agencies to teach their employees how to conduct work safely. Learning how to recognize something as a possible explosive hazard and notifying the appropriate authorities will help prevent unnecessary encounters with MEC.

**No Additional comments were received from the public during the meeting and no public comments were submitted via mail.**

### **1.3 Technical and Legal Issues**

There are no technical or legal issues that have been identified for this MRS at this time.

## REFERENCES

- U.S. Army Corps of Engineers (USACE). 1994a, Archives Search Report Findings, Camp Fannin, Tyler, Texas, Project Number K06TX006101, September 1994.
- U.S. Army Corps of Engineers (USACE). 1994b, Archives Search Report Conclusions and Recommendations, Camp Fannin, Tyler, Texas, Project Number K06TX006101, September 1994.
- U.S. Army Corps of Engineers (USACE). 1995, DERP-FUDS Inventory Project Report for Property K06TX006101, Triton Development Corporation, et al, Properties (formerly Camp Fannin), Tyler, Texas, Prepared by USACE Fort Worth District.
- U.S. Army Corps of Engineers (USACE), 2004, Archives Search Report Supplement, Camp Fannin, Tyler, Texas, Project Number K06TX0061, November 2004.
- U.S. Army Corps of Engineers (USACE), 2009, MMRP Realignment FUDSMIS Data Summary, Former Camp Fannin, Texas, Project No. K06TX006101, 3 February, 2009.
- U.S. Army Engineer Research and Development Center (ERDC), Topographic Engineering Center, 2004, "Camp Fannin, Texas: GIS-Based Historical Photographic Analysis, January 2004 Report", prepared for the USAESCH, Huntsville, AL.
- ZAPATA, 2013a, Final Remedial Investigation Report, Former Camp Fannin, Texas. May 2013.
- ZAPATA, 2013b, Final Feasibility Study Report, Former Camp Fannin, Texas. July 2013.
- ZAPATA, 2013c, Final Proposed Plan for the Former Camp Fannin, Texas. July 2013.

# ATTACHMENT 1

## ANNOUNCEMENT FOR PUBLIC NOTICE

<b>1220</b> Public Notices	<b>1220</b> Public Notices	<b>1220</b> Public Notices
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**U.S. Army Corps of Engineers (USACE) to hold a Public Meeting for the Remedial Investigation/Feasibility Study (RI/FS) and Proposed Plan, Former Camp Fannin**

The former Camp Fannin, Smith County, Texas, was used by the U.S. Army for training during World War II.

The U.S. Army Corps of Engineers will conduct a Public Meeting to discuss the Remedial Investigation/Feasibility Study and the Proposed Plan for future actions for the former Camp Fannin at the following location:

**Winona Senior High School Auditorium  
101 Wildcat Drive • Winona, Texas 75792  
July 16, 2013 • 6:30 – 8:30 p.m.**

A public comment period from July 8, 2013 through August 9, 2013 has been established. The USACE will accept written comments on the Proposed Plan during this period at the contact information provided below.

The local community is invited to attend the meeting that will provide a forum for exchange of information between the U.S. Army Corps of Engineers and the community regarding the ongoing site activities and the recommended future actions in the Proposed Plan.

Project-related documents, including the Proposed Plan, are available for review at the Tyler Public Library, 201 South College Avenue, Tyler, Texas 75702, and at the U.S. Army Corps of Engineers, Fort Worth District, 819 Taylor Street, Fort Worth, Texas 76102.

We encourage you to comment on the Proposed Plan during the public comment period that ends at 5:00 pm August 9, 2013. Mail postmarked by August 9, 2013 will be accepted. Comments received during this period will be considered in the final decision-making process.

To submit comments during the 30 day public comment period, or for additional information, please contact Ms. Beverly Post, U.S. Army Corps of Engineers, Fort Worth District, 819 Taylor Street, Fort Worth, Texas 76102.

**Telephone: (817) 886-1884  
Email: [Beverly.J.Post@usace.army.mil](mailto:Beverly.J.Post@usace.army.mil)**