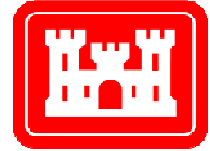


PROPOSED PLAN FOR MUNITIONS RESPONSE ACTIONS

Former Camp Howze, Cooke County, Texas



March 2013

This U.S. Army Corps of Engineers (USACE) is presenting this **Proposed Plan*** for the public to review and comment regarding the cleanup of potential remaining **munitions and explosives of concern (MEC)** at each of three **munitions response sites (MRS)** at the Camp Howze **Formerly Used Defense Site (FUDS)** in Cooke County, Texas. This Proposed Plan identifies **remedial alternatives** evaluated for each of three MRSs at Camp Howze, and it provides the rationale for the **Preferred Alternative** for each MRS. Camp Howze, comprised of over 59,000 acres northwest of Gainesville (Figure 1), was one of the largest infantry training division centers in the U.S. from its establishment in 1941 until its closure in 1946.

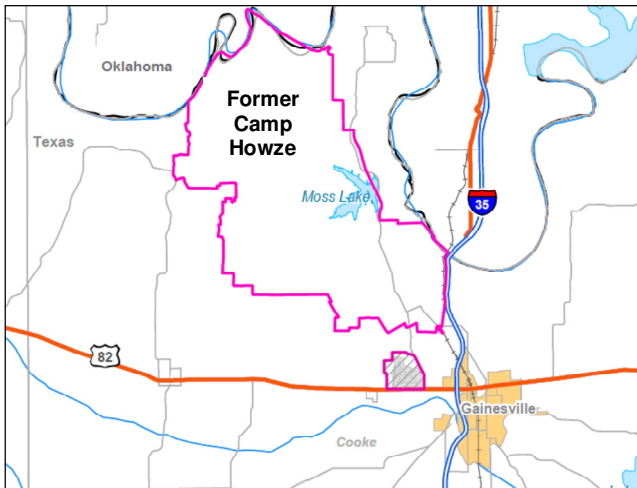


Figure 1: Former Camp Howze Location

* This Proposed Plan contains terms (in bold letters) used for environmental remediation and the overall **Military Munitions Response Program (MMRP)**. These terms are described in the Glossary found at the end of this document. Specifically, the term munitions and explosives of concern (MEC) is used in this Proposed Plan in place of two different terms used in the past to indicated explosive munitions items: (1) **ordnance and explosives (OE)** and (2) **unexploded ordnance (UXO)**.

Dates to Remember:
PLEASE MARK YOUR CALENDAR

PUBLIC COMMENT PERIOD:

March 25 – April 24, 2013

USACE will accept written comments on the Proposed Plan during the public comment period. Written comments may be sent to:

USACE Fort Worth District
Attn: Ms. Patience Nwanna
819 Taylor Avenue, Room 3A28
Fort Worth, TX 76102

PUBLIC MEETING:

April 4, 2013

USACE will hold a public meeting to explain the Proposed Plan and the alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting. The meeting will be held at the Civic Center, 311 S. Weaver Street, Gainesville, TX at 6:30 pm.

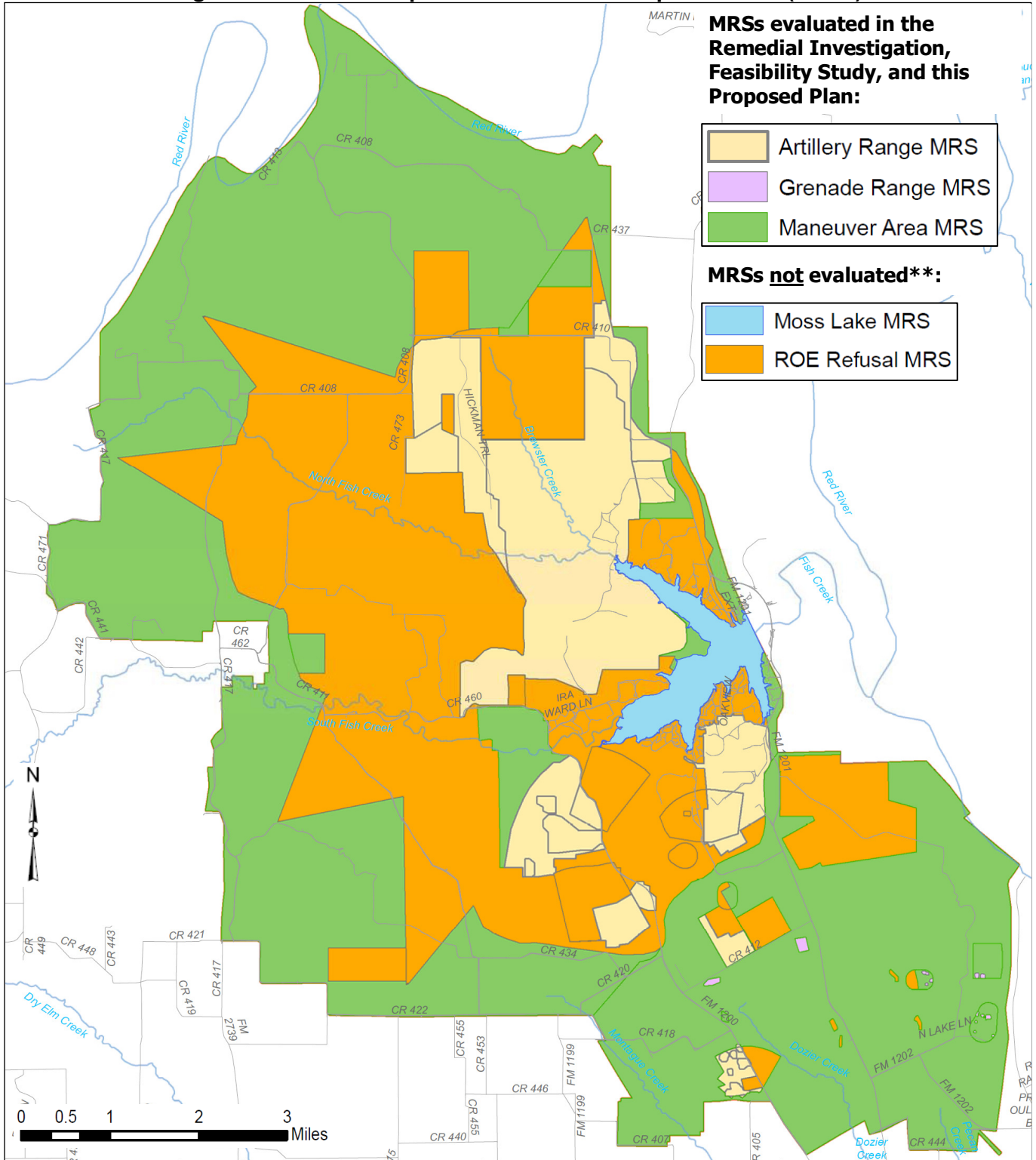
For more information, please see the Administrative Record at the following location:

Cooke County Library
200 S. Weaver Street
Gainesville, TX 76240

USACE has evaluated remedial alternatives to clean up MEC in three MRSs - Grenade Range MRS, Artillery Range MRS, and Maneuver Area MRS – described in the Remedial Investigation Report and Feasibility Study (Parsons, 2012 and 2013) and shown in Figure 2. The purposes of this proposed plan are to:

- Provide background information.
- Describe remedial alternatives considered.
- Identify the Preferred Alternative for remedial action for each evaluated MRS and explain the reasons for the preference.
- Solicit public review and comment on the alternatives described.
- Provide information on how the public can be involved in the remedy selection process.

Figure 2: Former Camp Howze Munitions Response Sites (MRSs)



** Moss Lake MRS was not evaluated because it is under water. The "ROE Refusal" MRS was not evaluated because landowners did not provide **right-of-entry (ROE)** to their property during the 2010 Remedial Investigation (RI). Therefore, these two MRSs are not further discussed in this document, but they will be included in 5-Year Reviews.

PUBLIC INVOLVEMENT PROCESS

Local community members and other interested parties are encouraged to review this Proposed Plan and submit comments. Public comments on all alternatives are considered before any action is selected and approved. USACE, the lead agency for site activities, in consultation with the Texas Commission on Environmental Quality (TCEQ) and the U.S. Environmental Protection Agency (USEPA), will select a final remedy for the site after reviewing and considering all information submitted during the 30-day public comment period. USACE, in consultation with TCEQ and USEPA, may modify the Preferred Alternative or select another response action presented in this Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the alternatives presented in this Proposed Plan.

This Proposed Plan is part of USACE's community relations program, which is a component of the requirements of Section 117(a) of the **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**, also known as **Superfund**, and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This Proposed Plan summarizes information that can be found in greater detail in the **Remedial Investigation (RI and Feasibility Study (FS))** reports and other documents contained in the Administrative Record file for this site. USACE encourages the public to review these documents to gain a more comprehensive understanding of the site and activities conducted at the site.

The Proposed Plan follows the requirements from *Engineer Regulation 200-3-1, FUDS Program Policy* (USACE, 2004a), MMRP Interim Guidance Document 06-04 (USACE, 2006), and the USEPA guidance provided in *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents* (USEPA, 1999).

The decision for each MRS will be presented in a **Decision Document**. USACE responses to public comments on this Proposed Plan will appear in the "Responsiveness Summary" section of the Decision Document. The flow chart shown in Figure 3 below summarizes the various steps in the development and approval process for the Camp Howze Decision Document.

LEAD AND SUPPORT AGENCIES

USACE is the executing agent for the FUDS program, which is responsible for environmental restoration of all properties that were formerly owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense, such as Camp Howze. The Military Munitions Response Program (MMRP) was established in 2001 to address non-operational Department of Defense (DoD) sites known or suspected to contain MEC or **munitions constituents (MC)** contamination. Under the MMRP, USACE conducts environmental response activities at FUDS for the Army. USACE is the lead agency for investigating, reporting, making remedial decisions, and taking remedial actions at the Camp Howze MRSs.

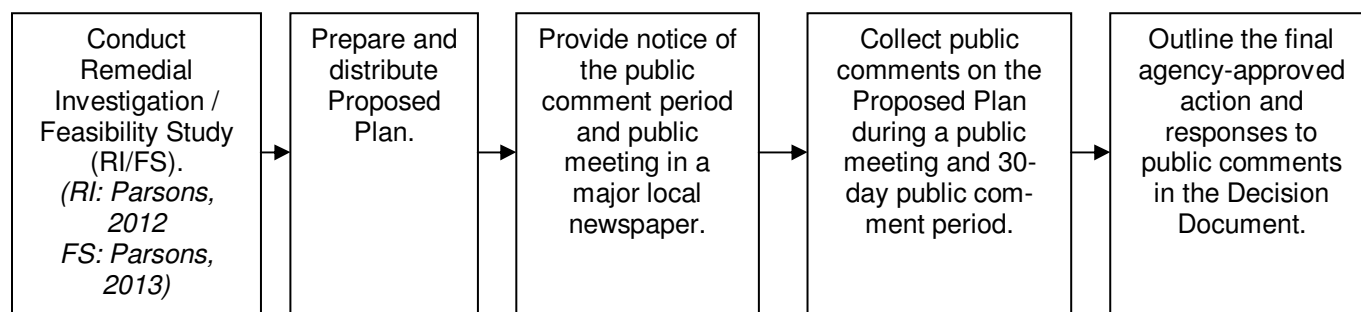


Figure 3 Camp Howze MRS Decision Document Process

PROJECT SITE BACKGROUND

SITE HISTORY AND PREVIOUS INVESTIGATIONS

Camp Howze was established in 1941 to train infantry divisions during World War II. The installation contained numerous maneuver areas, mortar ranges, rifle ranges, and other infantry training areas. Munitions-related activities which occurred at Camp Howze, including training with live and practice hand grenades, anti-tank rocket and rifle grenade training, force maneuver training, and munitions disposal, could have resulted in MEC contamination and/or MC contamination. The camp was declared surplus in 1946 and sold to private owners in 1947. The land is currently owned by several hundred private property owners that have established individual farms and home sites.

Between 1994 and 2004, USACE completed several historical records reviews and studies to identify past activities at Camp Howze which potentially resulted in contamination, and where those activities were conducted:

- Archive Search Report (ASR) (USACE, 1995);
- Reconnaissance Report (Montgomery Watson, 1998);
- Engineering Evaluation/Cost Analysis (EE/CA) (Parsons Engineering Science, 2000);
- Historical aerial imagery analysis (Frano and Kershner, 2001); and
- ASR Supplement (USACE, 2004b).

MEC contamination was identified during these studies, and removal actions were initiated in 2000 and continued through 2007. During that period, removal activities were conducted in over 2,400 acres across the former camp, in areas identified by USACE as having the highest potential for human interaction with UXO. (residences, agricultural and commercial activities, recreation, etc), and 1,491 MEC items were found (UXB, 2001; Parsons, 2009), primarily in the Artillery Range and Grenade Range MRSs.

The list of MEC known or suspected to be present at each MRS is based on the results of the prior investigations and removal actions at the camp. These include hand grenades and 2.36-inch high-explosive anti-tank (HEAT) rockets, mortar rounds up to 81mm, and high-explosive (HE) projectiles from 20mm to 155mm. Practice land mines and one antipersonnel mine have also been recovered.

Although MEC removal actions had already been initiated at Camp Howze, USACE conducted an RI/FS in accordance with CERCLA to determine the nature and extent of MEC and/or MC contamination.

REMEDIAL INVESTIGATION

In 2010 and 2011, an RI/FS was performed for three of the five MRSs at Camp Howze to confirm the presence of MEC and/or MC within each MRS and to characterize the nature and extent of contamination (Parsons, 2012). The Grenade Range MRS and Artillery Range MRS were investigated during the RI and were recommended for response actions to address potential remaining MEC. Previous investigation and removal action data for the Maneuver Area MRS were reviewed and assessed in the RI. The completely submerged Moss Lake MRS was not investigated during the RI, but will be addressed by USACE under a separate project in the future as a newly created water MRS. Properties for which ROE was not granted by the landowner were grouped into one MRS named the ROE Refusal MRS, and also were not investigated in the RI. This area is currently pending USACE completion of required documentation of the ROE refusals; however, ROE refusal areas will be investigated at a later date if and when access is granted.

Munitions and Explosives of Concern

A combination of the following activities were conducted across a representative portion of the Grenade Range and Artillery Range MRSs during the RI to assess the presence of MEC and to define the nature and extent of potential MEC hazards:

Historical document review: re-evaluation of site documents (e.g., Inventory Project Report [INPR], ASR, EE/CA, ASR Supplement,

Removal Action Site-Specific Final Report, etc.) to assess the potential MEC presence.

Instrument-aided reconnaissance: visual inspection of the ground surface along with the use of analog geophysical sensors to discern the presence/absence of subsurface metallic “anomalies” (conducted to focus digital geophysical mapping [DGM] – see below).

DGM surveys: detection and mapping of subsurface metallic anomalies using digital instruments.

Analog surveys: detection of subsurface metallic anomalies using analog geophysical sensors. The anomalies detected using analog methods were either excavated immediately (the “mag and dig” method) or marked with pin flags for possible excavation later (the “mag and flag” method).

Intrusive excavation: a representative portion of the subsurface metallic anomalies detected during DGM or analog surveys were selected for excavation to characterize whether or not the anomalies are MEC-related.

A total of twelve MEC items were found and safely detonated within the Artillery Range MRS during the RI. These items included nine M49A2 60mm mortars, one M6 2.36-inch HEAT rocket, one 2.36-inch practice rocket, and one M9 rifle grenade. No MEC were found in the Grenade Range MRS. **Munitions debris (MD)** items were found in the Grenade Range and Artillery Range MRSs. MD consists of remnants of munitions that have been confirmed inert and free of explosive hazards by technically qualified personnel. The MD items found in the Grenade Range MRS were associated with fragmentation, smoke (white phosphorus), practice, and training hand grenades; practice anti-tank (AT) mines; 2.36-inch practice rockets; and flares, signals, simulators and screening smoke (not white phosphorus). The MD found in the Artillery Range MRS included items related to 60mm and 81mm HE, practice, and smoke mortars; 2.36-inch HEAT and practice rockets; fragmentation, AT, and practice rifle grenades; fragmentation, practice, and training hand grenades; small arms ammunition; various armor piercing (AP), HE, shrapnel, smoke

(including white phosphorus), and practice projectiles between 37mm and 155mm; demolition materials; anti-personnel and practice AT mines; and flares, signals, simulators and screening smoke (not white phosphorus).

Based on review of historic documents and previous investigation and removal action data for the Maneuver Area MRS, a small amount of scattered and isolated MEC and MD has been found in this MRS during past investigations.

The estimated depths of MEC in the MRSs were estimated based on the results of the RI and prior investigations, and on the munitions potentially present. Based on this, the RI concluded that UXO might be present on the surface and down to 2.5 feet below ground surface (bgs) at the Grenade Range MRS, down to 4 feet bgs at the Artillery Range MRS, and down to 2.5 feet bgs at the Maneuver Area MRS.

Munitions Constituents

An objective of the Remedial Investigation was to determine if munitions used at the site leached contamination, such as explosives and metals, to surface and shallow subsurface soil, if contaminants migrated to nearby surface water and sediment at some MRSs via runoff, or if leaching to shallow groundwater may have occurred. Contaminants in the surface soil can also become airborne as suspended particulates or can be taken up by plants or ingested by animals.

To determine if MC contamination was present, soil and groundwater samples were collected and analyzed for known or suspected MC. Locations of samples and selected analytes were determined in consultation with TCEQ. The analytical results were compared to TCEQ human health and ecological screening values, as well as background metals concentrations which naturally occur in the area. No chemicals were detected at concentrations above these values. Therefore, it was concluded that there is no MC contamination present in soil and groundwater at the three MRSs, and therefore, contamination has not migrated to other environmental media, such as surface water, sediment, air, plants, or animals.

PROJECT SITE CHARACTERISTICS

Three of Camp Howze's MRSs, shown in Figure 2, are addressed in this Proposed Plan:

- Grenade Range MRS consists of 38 noncontiguous acres where historic documentation indicates that grenade training took place and/or where MEC and MD have been found during past investigations and clearances.
- Artillery Range MRS consists of about 7,600 noncontiguous acres where historic documentation indicates that artillery training took place and/or where MEC, MD, and high density metallic anomalies have been found during past investigations and clearances.
- Maneuver Area MRS includes the former camp's remaining 31,000 noncontiguous acres (excluding Moss Lake and ROE refusal areas) which were not identified as historic munitions training areas. A small amount of scattered MEC and MD has been found in this MRS during past investigations.

Physical Characteristics and Land Use

Camp Howze lies within both the Western Timbers and Grand Prairie sections of the Cross Timbers ecoregion in the Great Plains physiographic province. The site varies from gently rolling prairie to hilly, with flat bottomland and steep ledges. Escarpments near the rivers and tributaries generally form steep terrain and ravines. Elevations range from above 1000 feet to below 700 feet above mean sea level.

The land within Camp Howze consists of privately owned land used for agriculture, cattle grazing, and hunting, and residential uses. There are scattered residences across the site and there are also two areas of densely populated residential development, though the densely developed residential areas have largely been cleared of MEC hazards through the removal action completed in 2007 (Parsons, 2009). Current land uses are projected to remain the same for the foreseeable future.

Nature and Extent of Contamination

Past studies, investigations and removal actions have identified MEC contamination at Camp Howze. The results of this past work, along with the Remedial Investigation, were compiled to determine the boundaries of the MRSs and the estimated extent of contamination within them. The past work has resulted in the following conclusions:

- MEC identified within the three MRSs includes, but is not limited to high explosive and practice projectiles, high explosive and practice rockets, high explosive and practice hand grenades, high explosive and practice mortars, and pyrotechnics.
- Based on the lack of documented training activities along with low MD, MEC, and metallic **anomaly** densities, the approximately 31,000-acre Maneuver Area MRS is considered to have low potential for human interaction with MEC.
- Portions of the Artillery Range MRS showed elevated MEC, MD, and metallic anomaly densities, and were therefore classified as having a higher potential for being "MEC contaminated." This area includes approximately 3,500 acres of land, as shown in Figure 4, that has not been previously addressed with a removal action. The remaining 4,100 acres of the Artillery Range MRS, where historic records indicate training activities may have taken place, were either previously cleared or are considered less likely to contain MEC contamination based on investigation results.
- Based on historic use of the Grenade Range MRS, as well as MEC and MD densities, the entire 38 acres is considered potentially MEC contaminated, as shown in Figure 5.
- Previous investigations and MEC cleanup remedial actions indicate that MEC occurs to a depth of up to 4 feet in the Artillery Range MRS, and up to 2.5 feet in the Grenade Range and Maneuver Area MRSs.

Figure 4: Potentially MEC-Contaminated

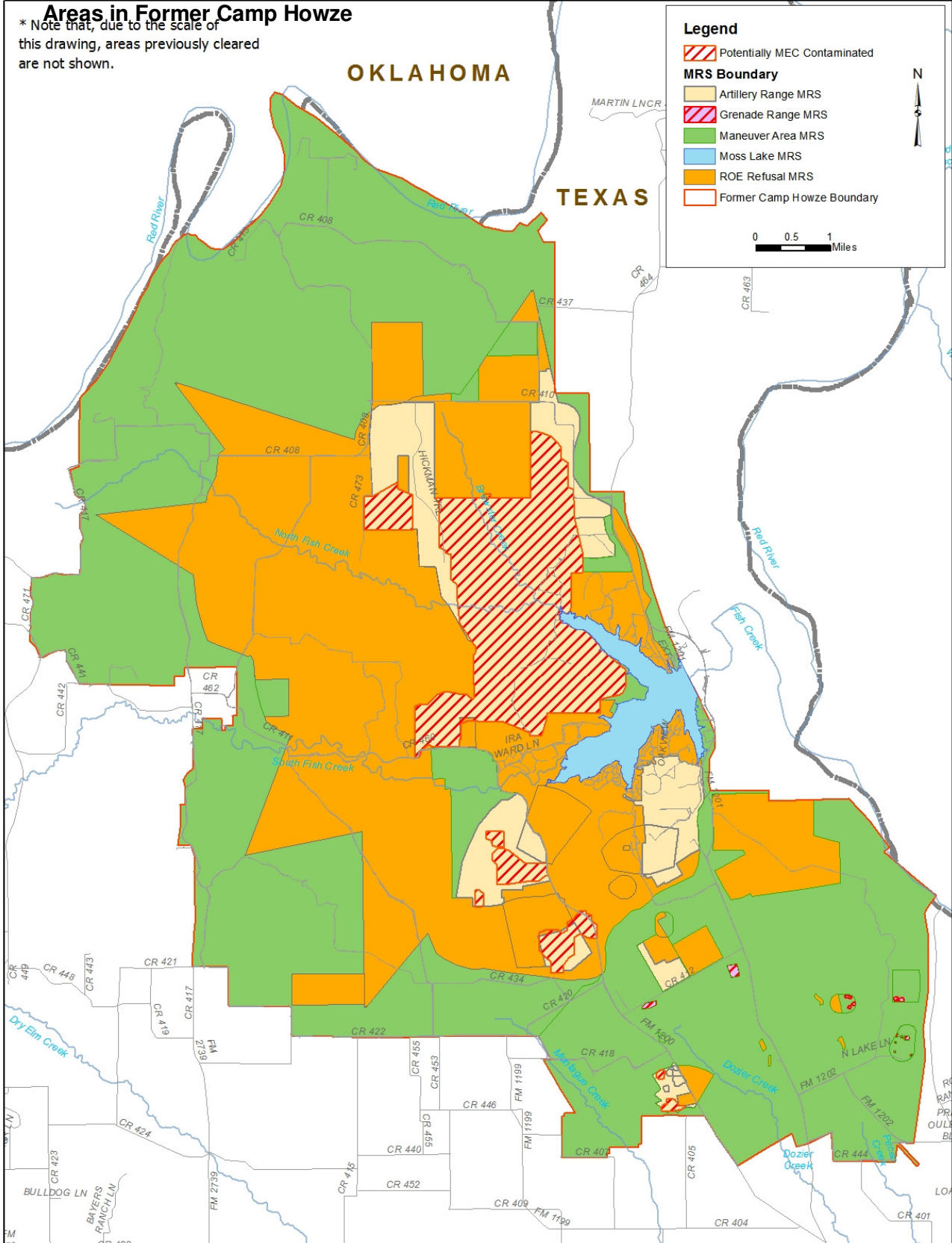
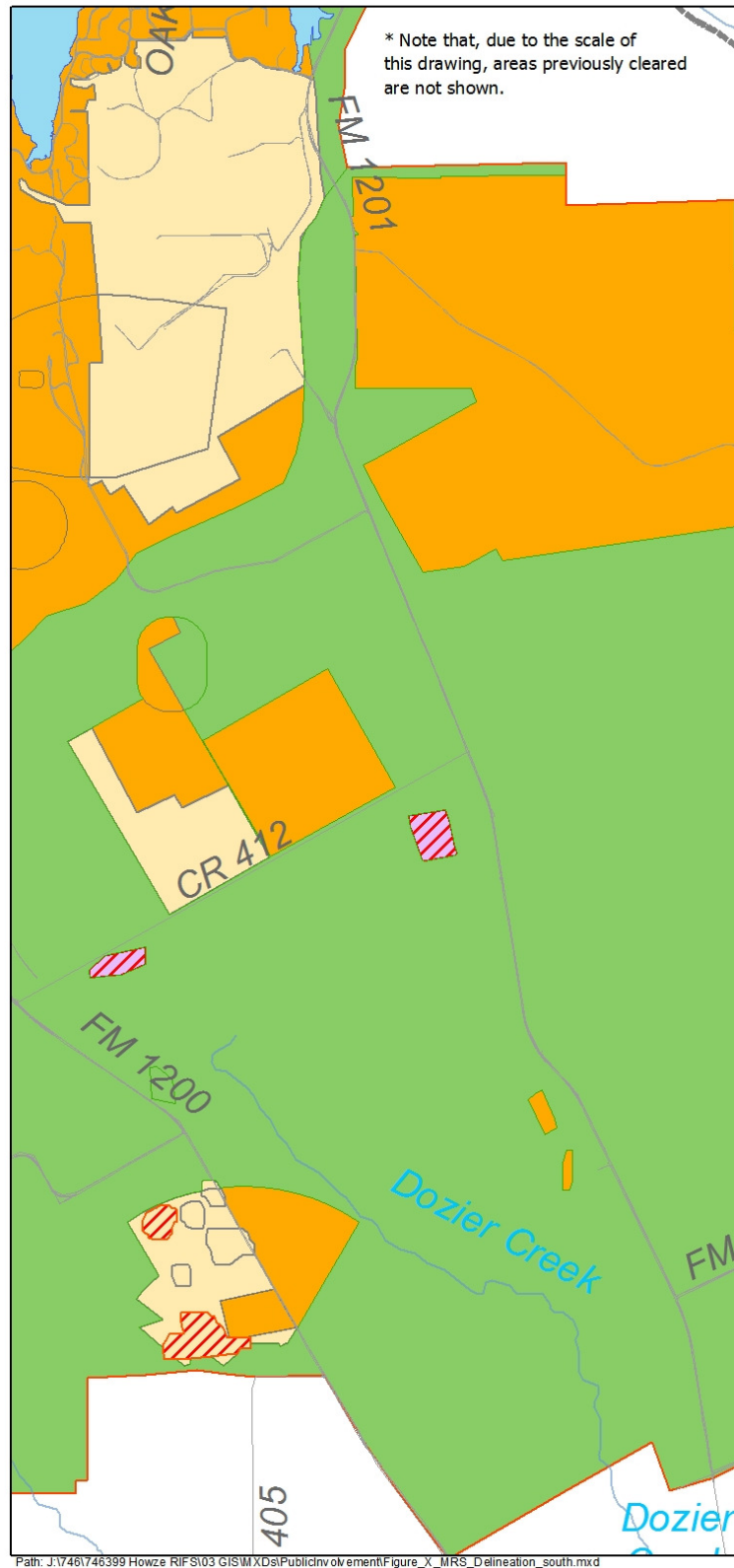


Figure 5: Potentially MEC-Contaminated Areas in Southeast Corner of Former Camp Howze



SCOPE AND ROLE OF RESPONSE ACTION

The Remedial Action Objectives are to minimize current and future exposure to MEC. At the Grenade Range MRS and the portions of the Artillery Range MRS which have a high probability for MEC contamination, this will be accomplished through surface and subsurface MEC removal, in addition to public education. Through the use of removal technologies in these areas, this response will permanently reduce the explosive hazard and the toxicity, mobility, and volume of those source materials that constitute the principal threat. In areas with low probability of MEC contamination, public education would reduce the probability the public would interact with a munitions item if they encounter it inadvertently.

SUMMARY OF SITE RISKS

The RI concluded that MEC may be present on the surface and in the subsurface of the Grenade Range MRS and Artillery Range MRS, and it also concluded that, although MEC may be present in the Maneuver Area MRS, it has a low probability of occurrence in these areas, as summarized in Table 1. MEC Hazard Assessments (HAs) were performed to evaluate potential current and future adverse health effects caused by MEC at each of the three MRSs. The results of the MEC HAs were also used to aid in the development, evaluation, and selection of appropriate response alternatives. A risk assessment for MC conducted as part of the RI determined no contaminants of concern were present at levels that might pose an unacceptable risk to human health or the environment in the Camp Howze MRSs.

Land use at Camp Howze is mainly limited to agriculture, cattle grazing, and seasonal hunting; therefore, primary receptors related to MEC at Camp Howze are anticipated to be residents, commercial/industrial workers (e.g., ranchers, utility workers, etc.) and site visitors and recreational users.

Table 1
Hazard and Risk Assessment Conclusions

MRS	Potential for Encountering MEC Hazards	Risks from Exposure to MC	Further Action Recommended
Grenade Range MRS	YES (moderate to high probability)	No	Feasibility Study
Artillery Range MRS	YES (moderate to high probability)	No	Feasibility Study
Maneuver Area MRS	YES (low probability)	No	Feasibility Study

The risk assessment addressed the likelihood of exposure to MEC, the severity of the exposure, and the likelihood of detonation. It is important to note that exposure to MEC does not mean that an incident or injury will occur. A person would have to disturb the MEC item (e.g. apply heat, friction, or shock to the item) to be exposed to actual explosive hazards.

Based on the MEC HA, the risk to human health associated with MEC is moderate to high at the three MRSs. MEC may remain at the three MRSs, and the MEC may cause major injuries if detonated by an individual's actions.

Surface MEC could be encountered by residents, workers, or site visitors or recreational users. Typical intrusive activities (crop cultivation, fence post maintenance) could be up to 3 feet, meaning that people could be exposed to subsurface MEC. The majority of the properties are privately-owned, and there is the potential for people to come into contact with surface or subsurface MEC where present.

Based on the results of the prior historical investigations and the RI, and the assessments of MEC hazards and MC risk summarized above, potential MEC hazards remain at the Artillery Range, Grenade Range, and Maneuver Area MRSs. An FS was recommended and subsequently conducted to assess possible response action alternatives for sites. The RI concluded that the FS did not need to address risks related

to MC contamination, which was determined not to be present.

It is the current judgment of USACE (lead agency) that the Preferred Alternatives identified in this Proposed Plan for each MRS, or one of the other active alternatives considered in this Proposed Plan, is necessary to protect public health or safety or the environment and minimize explosive safety hazards from actual or threatened interaction with MEC.

The preferred alternatives for the three MRSs were selected based on those most suitable to address the potential MEC hazards associated with the sites. Each of the three preferred alternatives include public education, total or focused excavation of the MEC source materials constituting principal threats, land restoration, and future five-year reviews to evaluate the implementation and performance of the remedies and determine the protectiveness to human health, safety, and the environment and continues to minimize explosive safety concerns.

REMEDIAL ACTION OBJECTIVES

The general **Remedial Action Objective (RAO)** at Camp Howze is to reduce the potential MEC hazards to ensure protection of human health, safety and the environment. The preliminary remediation goal for MEC is based on preventing interaction between any residual MEC and any receptors accessing the MRS. This would be achieved by removing MEC to a depth at which they no longer present a hazard to the anticipated human receptors and/or by implementing risk management measures that will minimize the possibility of receptors coming into contact with MEC at the site.

The RI established that there are no complete MC exposure pathways at the three MRSs covered in this Proposed Plan, (i.e., the Grenade Range, Artillery Range, and Maneuver Area MRSs). Therefore, there are no chemicals of concern or related complete MC exposure pathways to be included in the RAOs. The following RAOs were developed for the three MRSs:

- Minimize the direct contact threat associated with MEC, which is present to an anticipated depth of 4 feet.
- Limit inadvertent exposure to MEC potentially remaining at the site.

SUMMARY OF REMEDIAL ALTERNATIVES

A range of general response actions were identified, evaluated, and screened to develop a list of possible remedial alternatives for the MRSs that required a remedial response. These general response actions were (a) no action, (b) risk and hazard management (public education), and (c) excavation and restoration. Various technology options for these general response actions were evaluated based on screening criteria that included effectiveness, implementability, and cost. Technologies capable of achieving unrestricted use were evaluated in the FS, but were not retained because they were not considered feasible at this site. Methods deemed to be viable were combined into a list of five possible remedial alternatives for the Camp Howze MRSs. All alternatives, except the "No Action" alternative, meet RAOs and include the following common components:

- **Public Education** to create awareness of exposure to MEC potentially remaining at the site; and
- **Five-Year Reviews** to ensure the remedial alternative continues to be protective of human health and the environment.

Though not a remedial alternative, five-year reviews are included with Alternatives 2 through 5. Five-year reviews are required for sites where hazardous substances, pollutants, or contaminants remain at a site above levels that allow unlimited use and unrestricted exposure following the completion of remedy. Five-year reviews would be conducted to (1) ensure that public health, safety, and the environment are being protected and explosive safety hazards are minimized by the response actions implemented; (2) verify the integrity of any site controls; (3) determine if new

information has become available that may warrant further action or a change in action; (4) determine if there is an immediate threat to the public or environment that may require an accelerated or different response; and (5) review remediation decision for technical impracticability to determine if new or different technology should be applied to address potential risk. Data may be gathered during the review process to determine if further action needs to be taken to protect public safety and the environment, although collection of additional data is not anticipated. If no changes have taken place, the site would continue to be maintained and inspected at the specified intervals. At the completion of the review, a report would be prepared concerning the continued effectiveness of the remedy. Five-year reviews would be conducted to determine if the response action continues to minimize human health risks and continues to be protective of human health, safety, and the environment. 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.

A detailed description of the alternative development process is provided in the FS report for Camp Howze (Parsons, 2013).

The five alternatives, summarized below, were developed for initial screening of the three MRSs. However, not all alternatives were considered appropriate for each MRS. The alternatives considered for each MRS are described below.

Alternative 1: No Action

The “No Action” alternative involves no active response or controls to locate, remove, dispose of, or limit the exposure to any potential MEC present within the site. In addition, USACE would assume no responsibility for public education concerning the potential explosive hazards within the site. The “No Action” alternative is used in the evaluation of alternatives to provide a baseline for comparison of other response alternatives. Therefore, the “No Action” alternative was retained for evaluation for all three MRSs.

Alternative 2: Public Education

The “Public Education” alternative utilizes a Public Education Program to create awareness of exposure to MEC potentially remaining at the site. The Public Education Program includes periodic public safety awareness meetings and distribution of educational media to landowners and local businesses. The Public Education Program will provide effective risk management by educating the local population of the potential explosive hazards at the site.

This alternative includes an educational awareness program which would focus on providing information on the areas containing the potential MEC hazards and the appropriate response if MEC are 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. In addition, letters and fact sheets would be sent to landowners and residents on parcels in areas identified as having potential MEC hazards as a result of the RI, a website containing educational information would be maintained, and a Community Relations Plan would be updated every five years. The Community Relations Plan will outline the processes and procedures to be used for public education.

Five-year reviews are required for sites where hazardous substances, pollutants, or contaminants remain at a site above levels that allow unlimited use and unrestricted exposure following the completion of remedy. Five-year reviews would be conducted to (1) ensure that public health, safety, and the environment are being protected and explosive safety hazards are minimized by the response actions implemented; (2) verify the integrity of any site controls; (3) determine if new information has become available that may warrant further action or a change in action; (4) determine if there is an immediate threat to the public or environment that may require an accelerated or different response; and (5) review remediation decision for technical impracticability to

determine if new or different technology should be applied to address potential risk. Data may be gathered during the review process to determine if further action needs to be taken to protect public safety and the environment, although collection of additional data is not anticipated. If no changes have taken place, the site would continue to be maintained and inspected at the specified intervals. At the completion of the review, a report would be prepared concerning the continued effectiveness of the remedy. Five-year reviews would be conducted to determine if the response action continues to minimize human health risks and continues to be protective of human health, safety, and the environment.

Alternative 2 was retained for evaluation as follows:

- Grenade Range MRS: YES
- Artillery Range MRS: YES
- Maneuver Area MRS: YES

Alternative 3: Public Education and Signs

Alternative 3 combines installation of warning signs around the MRS with all the elements of Alternative 2. Landowner permission would be required prior to installing signs, and the signs would be maintained over time by USACE. This alternative is considered implementable for small areas. Use of signs is not considered implementable over very large areas like the Artillery Range MRS and Maneuver Area MRS which cover a large number of properties (landowner consent would be required for each), with numerous access points, including public roads and highways.

Alternative 3 was retained for evaluation as follows:

- Grenade Range MRS: YES
- Artillery Range MRS: NO
- Maneuver Area MRS: NO

Alternative 4: Public Education, Focused MEC Excavation and Restoration

Alternative 4 combines geophysical sensor-assisted identification, removal, and disposal of MEC-related items from the ground surface and subsurface in focused areas of the MRS where investigation results have shown a high probab-

ity for MEC contamination. In addition, the alternative includes site restoration following the MEC removal, with all the elements of Alternative 2. Under this alternative, USACE will:

- Survey and subdivide into grids the focused areas within the MRS;
- Cut sufficient brush and shrubs in the grids to allow for the effective use of detection equipment and safe removal of MEC-related items;
- Conduct digital geophysical mapping of the ground surface in the grids to identify locations of potential buried MEC-related items;
- Remove MEC-related items from the ground surface and manually excavate buried anomalies which may be MEC in each grid (excavation will be to a maximum depth of 48 inches [4 feet] at the Artillery Range MRS);
- Perform explosive detonation of MEC at the site;
- Restore the excavation and detonation area; and
- Transport non-hazardous MEC scrap for offsite treatment and disposal.

Alternative 4 was retained for evaluation as follows:

- Grenade Range MRS: NO – the entire 38-acre area is considered potentially MEC-contaminated.
- Artillery Range MRS: YES
- Maneuver Area MRS: NO – the probability of MEC contamination is considered low in this MRS.

Alternative 5: Public Education, Total Site MEC Excavation and Restoration

Alternative 5 is the same as Alternative 4, except the entire area of the MRS (excluding areas which are inaccessible, such as under buildings, paved roads, etc) would be surveyed, geophysically mapped, and cleared of MEC to a maximum depth of 30 inches (2.5 feet) at the Grenade Range MRS.

Alternative 5 was retained for evaluation as follows:

- Grenade Range MRS: YES
- Artillery Range MRS: YES
- Maneuver Area MRS: NO – the potential for encountering MEC contamination is considered low in this MRS.

A summary of the alternatives that were retained for each MRS is provided below in Table 2.

Table 2
Summary of Retained Alternatives

Alternative	Retained for:		
	Grenade Range?	Artillery Range?	Maneuver Area?
1: No Further Action	Yes	Yes	Yes
2: Public Education	Yes	Yes	Yes
3: Public Education and Signs	Yes	No	No
4: Public Education, Focused MEC Excavation and Restoration	No	Yes	No
5: Public Education, Total Site MEC Excavation and Restoration	Yes	Yes	No

EVALUATION OF ALTERNATIVES

Nine criteria were used to evaluate the five remedial alternatives individually and against each other to select a preferred alternative for each MRS. The preferred alternative for each MRS was selected based on which was most suitable to address the MRS's potential hazards and risks. This section of the Proposed Plan profiles the relative performance of each alternative against the criteria, noting how it compares to the other options under consideration. The nine criteria, listed in Table 3, fall into three groups:

- *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 **applicable or rele-**

vant and appropriate requirements (ARARs).

- *Primary balancing criteria* weigh major trade-offs among alternatives and include (a) long-term effectiveness and permanence, (b) reduction of **toxicity, mobility, or volume** (TMV) 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 Feasibility Study, they can only be fully considered after public comment is received on this 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.

A summary of the evaluation of the threshold and primary balancing criteria, applied to the alternatives and their applicable MRSs as outlined in Table 2, is provided in Table 4 for the Grenade Range MRS, Table 5 for the Artillery Range MRS, and Table 6 for the Maneuver Area MRS. Further details regarding this evaluation are provided in Chapter 5 of the Feasibility Study (Parsons, 2013).

The TCEQ has reviewed the RI, FS, and this Proposed Plan and agrees with the USACE's analyses and recommendations. Community acceptance of the preferred alternatives will be evaluated after the public comment period on the Proposed Plan.

Table 3
Evaluation Criteria for Remedial Action Alternatives

Threshold Criteria	Overall Protectiveness of Human Health and the Environment determines whether an alternative adequately protects human health and the environment from unacceptable risks posed by MEC in both the short- and long-term.
	Compliance with ARARs evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.
Primary Balancing Criteria	Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.
	Reduction of Toxicity, Mobility, and Volume (TMV) of Contaminants through Treatment evaluates use of treatment to reduce harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
	Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
	Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.
Modifying Criteria	Cost includes estimated capital and annual operations and maintenance costs for a 30-year period, as well as present worth cost. Cost estimates are expected to be accurate within a range of +50 to -30 percent.
	State/Support Agency Acceptance considers whether the State agrees with the USACE's analyses and recommendations, as described in the RI/FS and Proposed Plan.
Modifying Criteria	Community Acceptance considers whether the local community agrees with USACE's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

Table 4
Detailed Analysis of Alternatives for Grenade Range MRS

Alternative No. and Description	THRESHOLD CRITERIA		PRIMARY BALANCING CRITERIA				
	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence ⁽¹⁾	Reduction of TMV through Treatment	Short-Term Effectiveness	Implementability	Total Cost
1: No Action Alternative	This alternative does not meet this criterion. No source reduction. No reduction of future risk.	None	No long-term effectiveness and permanence.	No reduction.	No short-term risks. Implemented immediately.	Highly implementable since no actions are required.	\$0
2: Public Education	No source reduction. Public awareness can reduce interaction with MEC, thus reducing risk. Possible to bypass restrictions.	No applicable ARARs.	No reduction of MEC source. Education would be effective at reducing receptor interaction.	No reduction.	No short-term risks. Implemented quickly.	Easily implementable for public education program.	\$0.44M
3: Public Education and Signs	No source reduction. Public awareness can reduce interaction with MEC, thus reducing risk. Possible to bypass restrictions.	No applicable ARARs.	Partial effectiveness due to education of land users. Signs and public education methods must be reviewed and updated / maintained over time.	No reduction.	Possible short-term risks associated with sign construction. Implemented quickly.	Sign construction is difficult to implement and requires coordination and acceptance by private landowners.	\$0.72M
4: Public Education, Focused MEC Excavation and Restoration	Alternative 4 was not considered for the Grenade Range MRS. It is not considered implementable because the MRS does not contain smaller area of defined MEC contamination; the entire 38 acres are considered to be potentially contaminated.						
5: Public Education, Site-Wide MEC Excavation and Restoration	Source area reduction in MEC hazards through MEC excavation. Public awareness can reduce interaction with MEC, thus reducing risk.	MEC remediation would be conducted in compliance with location-specific ARARs (such as the Endangered Species Act).	Provides long-term effectiveness due to removal of MEC source. Public education materials must be reviewed and updated / revised over time.	Reduces source area TMV in entire MRS.	Possible short-term risks associated with MEC excavation.	MEC excavation is readily implementable, requires UXO technicians and specific equipment. MEC disposal would be conducted by UXO-Qualified Personnel .	\$0.96M

Table 5
Detailed Analysis of Alternatives for Artillery Range MRS

Alternative No. and Description	THRESHOLD CRITERIA		PRIMARY BALANCING CRITERIA				
	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence ⁽¹⁾	Reduction of TMV through Treatment	Short-Term Effectiveness	Implementability	Total Cost
1: No Action Alternative	This alternative does not meet this criterion. No source reduction. No reduction of future risk.	None	No long-term effectiveness and permanence.	No reduction.	No short-term risks. Implemented immediately.	Highly implementable since no actions are required.	\$0
2: Public Education	No source reduction. Public awareness can reduce interaction with MEC, thus reducing risk. Possible to bypass restrictions.	No applicable ARARs.	No reduction of MEC source. Education would be effective at reducing receptor interaction.	No reduction.	No short-term risks. Implemented quickly.	Easily implementable for public education program.	\$0.44M
3: Public Education and Signs	Alternative 3 was not considered for the Artillery Range MRS. It is not considered implementable because placing signs and maintaining them over 7,000+ acres would require significant coordination with and consent of multiple landowners.						
4: Public Education, Focused MEC Excavation and Restoration	Partial source area reduction through focused MEC excavation. Public awareness can reduce interaction with MEC, thus reducing risk.	MEC remediation would be conducted in compliance with location-specific ARARs (such as the Endangered Species Act).	Provides some long-term effectiveness due to removal of MEC source. Public education materials must be reviewed and updated / revised over time.	Reduces TMV in portion of MRS.	Possible short-term risks associated with MEC excavation.	MEC excavation is readily implementable, requires UXO technicians and specific equipment. MEC disposal would be conducted by UXO-Qualified Personnel.	\$48M
5: Public Education, Site-Wide MEC Excavation and Restoration	Source area reduction in MEC hazards through MEC excavation. Public awareness can reduce interaction with MEC, thus reducing risk.	MEC remediation would be conducted in compliance with location-specific ARARs (such as the Endangered Species Act).	Provides long-term effectiveness due to removal of MEC source. Public education materials must be reviewed and updated / revised over time.	Reduces source area TMV in entire MRS.	Possible short-term risks associated with MEC excavation.	MEC excavation is readily implementable, requires UXO technicians and specific equipment. MEC disposal would be conducted by UXO-Qualified Personnel.	\$104M

Table 6
Detailed Analysis of Alternatives for Maneuver Area MRS

Alternative No. and Description	THRESHOLD CRITERIA		PRIMARY BALANCING CRITERIA				
	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence ⁽¹⁾	Reduction of TMV through Treatment	Short-Term Effectiveness	Implementability	Total Cost
1: No Action Alternative	This alternative does not meet this criterion. No source reduction. No reduction of future risk.	None	No long-term effectiveness and permanence.	No reduction.	No short-term risks. Implemented immediately.	Highly implementable since no actions are required.	\$0
2: Public Education	No source reduction. Public awareness can reduce interaction with MEC, thus reducing risk. Possible to bypass restrictions.	No applicable ARARs.	No reduction of MEC source. Education would be effective at reducing receptor interaction.	No reduction.	No short-term risks. Implemented quickly.	Easily implementable for public education program.	\$0.44M
3: Public Education and Signs	Alternative 3 was not considered for the Maneuver Area MRS. It is not considered implementable because placing signs and maintaining them over 31,000+ acres would require significant coordination with and consent of multiple landowners.						
4: Public Education, Focused MEC Excavation and Restoration	Alternative 4 was not considered for the Maneuver Area MRS. It is not considered implementable because the MRS does not contain identified areas of MEC contamination.						
5: Public Education, Site-Wide MEC Excavation and Restoration	Alternative 5 was not considered for the Maneuver Area MRS. It is not considered implementable because the MRS does not contain identified areas of MEC contamination.						

SUMMARY OF ALTERNATIVES EVALUATION

Alternative 1 must be ruled out for all three MRSs because it is not protective of human health and it is ineffective in long-term permanence. Alternative 2 is effective at reducing risk associated with MEC hazards but provides no reduction of TMV for MEC. However, it is the only viable remedial alternative for the Maneuver Area MRS, which only considers Alternatives 1 and 2. Alternative 3, which is only considered for the Grenade Range MRS, provides the additional notification to land users regarding the potential hazards using signs, which improves hazard reduction for that MRS over that provided by implementing Alternative 2. Alternative 5 requires MEC excavation to depth of detection in 100 percent of the MRS acreage and is cost prohibitive for the Artillery Range MRS, but for the Grenade Range MRS, the estimated cost is less than approximately \$1 million. For the Artillery Range MRS, Alternative 4 achieves the balancing factors of long-term effectiveness, permanence, and reduction of TMV through MEC excavation to depth of detection in focused areas and is the most viable remedial alternative for this MRS.

PREFERRED ALTERNATIVES

The Preferred Alternatives proposed for implementation at each MRS, based on the evaluation described above and their estimated total costs are summarized in Table 7. Each of these Preferred Alternatives is described in further detail in the following paragraphs.

Table 7
Preferred Remedial Alternatives for Camp Howze MRSs

MRS	MRS Acreage	Preferred Alternative	Total Cost
Grenade Range MRS	38	<i>Alternative 5:</i> Public Education, Total Site MEC Excavation and Restoration	\$0.96 Million
Artillery Range MRS	~7,600	<i>Alternative 4:</i> Public Education, Focused MEC Excavation and Restoration	\$48 Million
Maneuver Area MRS	~31,000	<i>Alternative 2:</i> Public Education	\$0.44 Million

PREFERRED ALTERNATIVE – GRENADE RANGE MRS

As discussed previously, the potential for MEC contamination exists at the Grenade Range MRS. Based on the comparative analysis, Alternative 5, Public Education, Total Site MEC Excavation and Restoration, with Five-year Reviews, is the recommended alternative. This alternative would involve the excavation and disposal of MEC over 38 acres within the Grenade Range, the implementation of a public education program, and the completion of 5-year reviews. The completion of the removal action over 100 percent of the MRS would result in a significant reduction in MEC hazards; however, some munitions may be missed under existing structures such as roads, buildings, sidewalks, paved areas not likely to be cleared, and due to technical limitations of the detection equipment. The estimated total cost for Alternative 5 at the Grenade Range MRS is \$0.96 Million.

PREFERRED ALTERNATIVE – ARTILLERY RANGE MRS

The Artillery Range MRS comprises all non-grenade range areas where concentrated MEC may be present and, based on the comparative analysis of identified alternatives, Alternative 4 is the recommended alternative for this MRS. For Alternative 4, MEC excavation and site restoration would be conducted by trained UXO-qualified personnel only in the previously unremediated portion of the MRS identified during the RI as potentially MEC contaminated (~3,500 acres). This alternative would also involve the implementation of a public education program and the completion of five-year reviews. The completion of the remedial action at these focused areas would result in a significant reduction in potential MEC hazards; however, some munitions may be missed due to technical limitations and under existing structures such as roads, buildings, sidewalks, and paved areas are not likely to be cleared. The estimated total cost for Alternative 4 at the Artillery Range MRS is \$48 Million.

PREFERRED ALTERNATIVE – MANEUVER AREA MRS

While there is a low probability of encountering explosive hazards in the Maneuver Area MRS, the potential for isolated MEC items to be present cannot be ruled out. Due to the large area covered by the Maneuver Area MRS, Alternative 2, Public Education with 5-Year Reviews, is the only viable remedial alternative for the MRS and is effective at reducing hazards associated with MEC. Therefore, it is the Preferred Alternative for this MRS. This alternative would involve the implementation of a public education pro-

gram across the MRS and the completion of 5-year reviews. The estimated total cost for this alternative at the Maneuver Area MRS is \$0.44 Million.

CONCLUSION

The Preferred Alternatives selected for each MRS may change in response to public comments or new information. Based on the information currently available, USACE believes that the Preferred Alternatives selected for each MRS are protective of human health, safety, and the environment, minimize explosive safety hazards, and satisfy the statutory requirements of CERCLA §121(b).

COMMUNITY PARTICIPATION

PUBLIC COMMENTS

USACE is the lead agency for investigating, reporting, making remedial decisions, and taking remedial actions at Camp Howze. As lead agency, USACE is soliciting public comments on the Preferred Alternatives recommended for this site. The final RI Report and final FS Report for Camp Howze, Cooke County, Texas (Parsons, 2012 and 2013) are comprehensive documents that describe the history of the site, investigation results, and the associated risk assessments and their conclusions. The Camp Howze reports and this Proposed Plan were made available for review at the Cooke County Library.

Public comments are considered before any action is selected and approved. Written and oral comments on this Proposed Plan are accepted throughout a 30-day public comment period between **March 25, 2013** and **April 24, 2013**. Correspondence should be postmarked no later than **April 24, 2013** and should be sent to the attention of **Ms. Patience Nwanna, Project Manager**.

CONTACT INFORMATION

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ADMINISTRATIVE RECORD

Copies of the final RI Report and final FS Report for Former Camp Howze (Parsons 2012 and 2013), and this Proposed Plan can be found in the Camp Howze Administrative Record at the following location:

Cooke County Library
200 South Weaver Street
Gainesville, TX 76240
Tel.: (940) 668-5530

Hours of Operation:

Monday, Wednesday, Friday: 9 am - 6 pm
Tuesday, Thursday: 10 am - 7 pm
Saturday: 10 am - 4 pm

REFERENCES

- Department of Defense Explosives Safety Board (DDESB), 2004. *Minimum Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel*. DDESB TP 18. December 20, 2004.
- Frano, G., and K. Kershner, 2001. *Historical Photographic Analysis of Significant Features for Camp Howze and Camp Howze 1995 Orthophoto*. Prepared for the U.S. Army Corps of Engineers Engineer Research and Development Center, Topographic Engineering Center, July 2001.
- Montgomery Watson, 1998. *Reconnaissance Report for Former Camp Howze*. Prepared for the U.S. Army Corps of Engineers, Huntsville Center. Prepared by Montgomery Watson. November 1998
- Parsons Engineering Science, 2000. *Engineering Evaluation and Cost Analysis for Camp Howze, Texas*. Prepared for the U.S. Army Corps of Engineers, Huntsville Center. Prepared by Parsons Engineering Science, Austin, Texas. October 2000.
- Parsons, 2009. *Site-Specific Final Report for the Former Camp Howze, Gainesville, Texas, FUDS Project No. K06TX001510*. Contracting Agency: U.S. Army Corps of Engineers, Huntsville Center. Geographical Corps District: U.S. Army Corps of Engineers, Fort Worth District. Prepared by Parsons, Austin, Texas. June 2009.
- Parsons, 2012. *Final Remedial Investigation Report. Former Camp Howze, Gainesville, Texas*. Prepared for the U.S. Army Engineering and Support Center, Huntsville. Geographic District: U.S. Army Corps of Engineers, Fort Worth District. Prepared by Parsons, Austin, Texas. September 2012.
- Parsons, 2013. *Final Feasibility Study. Former Camp Howze, Cooke County, Texas*. Prepared for the U.S. Army Engineering and Support Center, Huntsville. Geographic District: U.S. Army Corps of Engineers, Fort Worth District. Prepared by Parsons, Austin, Texas. March 2013.
- USACE, 1986. *Findings and Determination of Eligibility, Findings of Fact, Felderhoff, et al., (Camp Howze), Gainesville, Texas. Project No. K06TX001500*. Findings of Fact. November 1986.
- USACE, 1995. *U.S. Army Corps of Engineers Archives Search Report, Findings for Camp Howze, Gainesville, Texas, Cooke County. Site No. K06TX001500*. Prepared by U.S. Army Corps of Engineers, St. Louis District. March 1995.
- USACE, 2004a. *Engineer Regulation 200-3-1, Formerly Used Defense Site (FUDS) Program Policy*. Issued by the Department of the Army, U.S. Army Corps of Engineers, Washington, D.C. May 10, 2004.
- USACE, 2004b. *U.S. Army Corps of Engineers ASR Supplement for Camp Howze (Felderhoff) FUDS Property No. K06TX0015*. Prepared by U.S. Army Corps of Engineers, St. Louis District. Nov. 2004.
- USACE, 2006. *Military Munitions Response Process, Military Munitions Center of Expertise (MM CX), Interim Guidance Document (IGD) 06-04. Draft Engineering Pamphlet (EP) 1110-1-18, Military Munitions Response Process*. Issued by the Department of the Army, Huntsville Center, Corps of Engineers. March 6, 2006.
- USEPA, 1999. *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedial Selection Decision Documents*. USEPA Office of Solid Waste and Emergency Response. EPA 540-R-98-031. July 1999.
- UXB, 2001. *Final Removal Report for an Ordnance and Explosives Removal Action, former Camp Howze, Texas*. Prepared for the U.S. Army Corps of Engineers Engineering and Support Center, Huntsville. Prepared by UXB International, Inc., Ashburn, Virginia. December 2001.

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) – A federal law that addresses the funding for and remediation of abandoned or uncontrolled hazardous waste sites. This law also establishes criteria for the creation of key documents such as the Remedial Investigation, Feasibility Study, Proposed Plan, and Decision Document.

Applicable or relevant and appropriate requirements (ARAR) – The Federal and State environmental laws that a selected remedy will meet. These requirements may vary among sites and alternatives.

Chemical of Concern (COC) – COCs are defined as the COPCs (see below) that are present at sufficient concentrations to pose a risk to human health or the environment.

Decision Document – A report documenting the final action, approved by the regulatory agencies, that is required at CERCLA sites.

Discarded Military Munitions – 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 **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 – Reviews generally required by CERCLA or program policy when hazardous substances remain on site.

Formerly Used Defense Site (FUDS) – Locations that were owned by, leased to, or otherwise used by the Department of Defense. The term does not include any operational range, operating storage or manufacturing facility, or facility that was used for or was permitted for the treatment or disposal of military munitions.

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.

Ordnance and Explosives (OE) – Consists of either (1) or (2) below:

- (1) Ammunition, ammunition components, or explosives that have been abandoned, expelled from demolition pits or burning pads, lost, discarded, buried, or fired. Such ammunition, ammunition components, and explosives are no longer under accountable record control of any DoD organization or facility.
- (2) Explosive soil, which refers to mixtures of explosives in soil, sand, clay, or other solid media at concentrations such that the mixture itself is explosive.

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.

Proposed Plan – 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, fuzed, 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 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

ARAR	Applicable or relevant and appropriate requirement
ASR	Archive Search Report
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	chemical of concern
DDESB	Department of Defense Explosives Safety Board
DERP	Defense Environmental Restoration Program
DGM	Digital geophysical mapping
DoD	Department of Defense
EE/CA	Engineering Evaluation / Cost Analysis
FS	Feasibility Study
FUDS	Formerly Used Defense Site
GPS	Global Positioning System
HA	Hazard Assessment
HE	high explosive
HEAT	high explosive anti-tank
HRR	historical records review
INPR	inventory project report
MC	munitions constituents
MD	munitions debris
MEC	munitions and explosives of concern
MMRP	military munitions response program
MPPEH	munitions potentially presenting an explosive hazard
MRS	munitions response site
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
O&M	operations & maintenance
RAO	remedial action objective
RI	remedial investigation
ROE	right-of-entry
SI	site inspection
TCEQ	Texas Commission on Environmental Quality
TMV	Toxicity, mobility, and volume
TPP	Technical Project Planning
USACE	United States Army Corps of Engineers
USAESCH	U.S. Army Engineering and Support Center, Huntsville
USEPA	United States Environmental Protection Agency
UXO	unexploded ordnance

USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Plan for the Former Camp Howze MRSs is important to USACE. Comments provided by the public are valuable in helping USACE select a final remedy for the site.

You may use the space below to write your comments. Comments must be postmarked by April 24, 2013. Mailed comments should be sent to Ms. Patience Nwanna, at the address listed on Page 19. If you have any questions about the comment period, please contact Patience Nwanna at (817) 886-1470. Those with electronic communications capabilities may submit their comments to USACE via Internet at the following e-mail address: *Patience.N.Nwanna@USACE.Army.mil*

Name: _____

Address: _____

City: _____

State and Zip: _____

Comments: