FINAL COMMUNITY INVOLVEMENT PLAN
LONGHORN ARMY AMMUNITION PLANT
HARRISON COUNTY, TEXAS

Prepared Under:

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TABLE OF CONTENTS

TABLES

FIGURE

APPENDICES

LIST OF ACRONYMS

AMC	Army Materiel Command
AOC	Area of Concern
AR	Army Regulation
ARAR	Applicable or Relevant and Appropriate Requirement
Army	Department of the Army
AST	Aboveground Storage Tank
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIP	Community Involvement Plan
COC	Contaminant of Concern
COPC	Contaminant of Potential Concern
DD	Decision Document
DERP	Defense Environmental Restoration Program
DMM	Discarded Military Munitions
DoD	Department of Defense
EE/CA	Engineering Evaluation/Cost Analysis
EOD	Explosive Ordnance Division
FFA	Federal Facility Agreement
FRA	Final Remedial Action
FS	Feasibility Study
FY	Fiscal Year
GWTP	Groundwater Treatment Plant
HTRW	Hazardous, Toxic and Radioactive Waste
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LAP	Load, Assembly, and Pack
LHAAP	Longhorn Army Ammunition Plant
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern
mm	Millimeter
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MOA	Memorandum of Agreement
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
MSC	Medium-Specific Concentration
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No Further Action
NPL	National Priorities List
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyl

POC	Point of Contact
POL	Petroleum, Oil and Lubricants
PP	Proposed Plan
RAB	Restoration Advisory Board
RA-C	Remedial Action-Construction
RA-O	Remedial Action-Operation
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SI	Site Inspection
SWMU	Solid Waste Management Unit
TAG	Technical Assistance Grant
TAPP	Technical Assistance for Public Participation
TASC	Technical Assistance Services for Communities
TCE	Trichloroethylene
TCEQ	Texas Commission on Environmental Quality
TNT	Trinitrotoluene
TRC	Technical Review Committee
USAEC	U.S. Army Environmental Command
UEP	Unlined Evaporation Pond
USC	Unites States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
UU/UE	Unlimited Use/Unrestricted Exposure
UXO	Unexploded Ordnances
VOC	Volatile Organic Compound
WWII	World War II
WWTP	Wastewater Treatment Plant

1.0 OVERVIEW OF COMMUNITY INVOLVEMENT PLANS

The Department of the Army (Army) has prepared this Community Involvement Plan (CIP) update for the Defense Environmental Restoration Program (DERP) at Longhorn Army Ammunition Plant (LHAAP). The CIP provides guidance for public involvement associated with the Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) cleanup sites at LHAAP. Active sites within the program are currently in various phases of investigatory and remedial action activities.

The Army has prepared the LHAAP CIP in accordance with current United States Environmental Protection Agency (USEPA) guidance. The community involvement requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and the Resource Conservation and Recovery Act (RCRA) of 1976, as amended by the Hazardous and Solid Waste Act of 1984, are outlined herein.

1.1 Purpose

Applicable and effective communication, and the timely exchange of information are essential for maintaining community understanding and support for LHAAP and to ensure the success of community involvement. The purposes of the community involvement process are to:

- Establish effective and comprehensive methods for informing the community of installation cleanup program actions;
- Solicit input and identify concerns that the local community may have regarding current and future cleanup program activities; and
- Maintain a strategy that supports pro-active, two-way communication between the Army and the local community.

The CIP identifies activities that encourage two-way communication between the Army installation and the local community. This communication includes providing opportunities for the community to learn about and comment on the IRP and MMRP. This CIP has been developed to provide a line of communication for sharing public information. The target audiences are local

citizens and neighbors; installation residents and tenants; federal, state, and local officials and agencies; and local businesses and civic interest groups.

2.0 INSTALLATION AND IRP BACKGROUND

2.1 Installation Location and Description

LHAAP is located in central east Texas, in the northeastern corner of Harrison County, approximately 14 miles northeast of Marshall, Texas and 40 miles west of Shreveport, Louisiana. The closed installation occupies approximately 1,100 acres of the original 8,416-acre installation and is bounded by Caddo Lake to the east and State Highway 43 to the west. The shores of Caddo Lake have wetland areas and streams that fall within the boundary of the installation; the remaining surrounding area is primarily rural and forested lands. While active, LHAAP was under the jurisdiction of Army Materiel Command (AMC) and its mission was the production of trinitrotoluene (TNT), pyrotechnic items, and rocket motors. The location of LHAAP is shown on **Figure 1**.

2.2 History of Installation Operations

LHAAP was established in 1942 to produce 2,4,6-TNT flake, and production continued through World War II (WWII) until 1945. Monsanto Chemical Company was the first contract operator at the installation. Between August 1945 and February 1952, the installation was on standby status. From February 1952 until 1956, pyrotechnic ammunition (photoflash bombs, simulators, hand signals, and tracers for 40millimeter [mm] ammunition) was produced under Universal Match Corporation as the contracting operator. Between 1956 and 1965, Thiokol continued the production of pyrotechnic ammunition in addition to rocket motor production. Prior to 1994, operations at the installation consisted of compounding pyrotechnic and propellant mixtures; load, assembly, and pack (LAP) activities; receipt and shipment of containerized cargo; maintenance and/or layaway of standby facilities and equipment; and static firing and elimination of Pershing I and II rocket motors.

In August 1990, LHAAP was placed on the National Priorities List (NPL). Subsequent to the RCRA Hazardous and Solid Waste Amendments of 1984, LHAAP applied for a RCRA Part B permit. In February 1992, the RCRA Part B permit was signed.

The Army declared the installation was excess to its needs in July 1997. On October 21, 2000, a Memorandum of Agreement (MOA) between the Army and the United States Fish and Wildlife Service (USFWS) designated approximately 7,200 acres as a wildlife refuge within the perimeter of the former installation. In 2002, the Base Realignment and Closure (BRAC) office was tasked with disposal of the installation property. Since May 2004, approximately 7,300 acres have been transferred to the USFWS as the Caddo Lake National Wildlife Refuge. The remaining acreage is expected to be transferred to USFWS when restoration activities are complete.

2.3 Overview of the Army Cleanup Program

The DERP was formally established by Congress in 1986 and provides for the cleanup of Department of Defense (DoD) sites under the jurisdiction of the Secretary of Defense. The key objective of the cleanup program is to reduce, or eliminate when possible, threats to human health and the environment that result from historical use or disposal practices. The two environmental restoration activities categorized under DERP that apply to LHAAP are the IRP and the MMRP.

The IRP is a comprehensive program to address required response actions for releases of hazardous substances and pollutants or contaminants; petroleum, oil and lubricants (POLs); hazardous wastes or hazardous waste constituents; explosive compounds released to soil, surface water, sediment, or groundwater as a result of ammunition or explosives production or manufacturing at ammunition plants. The IRP category also includes response activities to address unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC) posing an explosive, human health, or environmental hazard that are incidental to an existing IRP site. DERP guidance requires that sites in the IRP program be prioritized for cleanup based primarily on relative risk by grouping sites or areas of concern (AOCs) into high, medium, and low priority categories. Relative risk is evaluated using three factors: the contaminant hazard factor (i.e., the types of contaminants present and how hazardous they are); the migration pathway factor (whether the contaminants are moving, and in what direction); and the receptor factor (potential of humans or plants/animals to be exposed to the contaminants). All three factors are used to estimate risk at individual environmental sites. The results (low, medium and high) vary by site. This has not been an issue at LHAAP. For further information on how

relative risk is evaluated for IRP sites, refer to the DoD *Relative Risk Site Evaluation Primer* (1996).

The MMRP addresses non-operational range lands that are suspected or known to contain UXO, DMM, or MC. In the MMRP, relative cleanup priorities are assigned using the DoD Munitions Response Site Prioritization Protocol (MRSPP) (32 Code of Federal Regulations [CFR] Part 179). Data is gathered during a comprehensive site investigation or characterization to identify munitions contaminant types, sources, transport processes, receptors, and exposure pathways. The data is evaluated to determine if a munitions response (MR) area requires further investigation and to assign a priority for subsequent action. Only UXO have been found at LHAAP MMRP sites.

Each Army installation must implement a cleanup strategy that protects human health and the environment and reduces relative risk.

2.3.1 Phases of Cleanup Process

The investigation and restoration of sites contaminated by past practices is conducted in steps, or phases, with provisions for emergency removal actions or other rapid responses if an imminent danger to public health is identified. The main steps, or phases, in the cleanup process are briefly described below. The names used here are specific to the CERCLA process. The equivalent phase names used in the RCRA program are provided in **Appendix A**.

- **Preliminary Assessment (PA)** – This is the initial review and analysis of available information to determine whether a release is likely to have occurred. The PA describes the potential source and nature (type) of releases, includes a preliminary evaluation of threats to the health and welfare of the public and the environment, and recommends subsequent phases in the cleanup process. The relative risk is evaluated during this phase. The decision to close out a site may be made at the end of the PA phase if there is enough data to support that decision.

- **Site Inspection (SI)** – This phase is conducted for AOCs that are identified during the PA, or for munitions response areas. The SI determines the relative cleanup priority, characterizes the presence or absence of contamination, and determines the next appropriate phase. Screening level human health and/or ecological risk assessments may be performed for MMRP sites during this phase. A decision to close out a site may be made at the end of the SI phase if there is enough data to support that decision.

- **Remedial Investigation (RI)/ Feasibility Study (FS)** – The nature (types) and extent (vertical and horizontal boundaries) of the contamination, and severity of any threat to human health and environment are determined in the RI. Human health and/or ecological risk assessments are conducted during the RI phase.

Potential remedial (cleanup) alternatives are developed and evaluated during the FS phase to address any threats to human health and the environment. The remedial alternatives are evaluated based on an established set of USEPA criteria. The criteria evaluation allows the Army to identify the remedial alternative that best meets the applicable or relevant and appropriate requirements (ARARs) and mitigates threats to human health and the environment.

- The proposed plan (PP) is a synopsis of the RI/FS that summarizes for the public what the remedial alternatives are, how they were evaluated, how they compared to one another, and which alternative the Army identified as the preferred remedy. After coordination with relevant regulators, the PP is distributed to the public for review and comment before a final remedy is selected. A summary fact sheet also is made available to the public at this point in the process. After the public review and comment on the PP, the selected remedy is revised as needed and documented in a Record of Decision (ROD) or a Decision Document (DD). A ROD or DD is a legal document that specifies the selected remedy, its objectives, and its endpoint. While the Army is always a signatory to a ROD for one of its installations, federal or state regulatory signatures also may be required based on a site's NPL and/or RCRA status. Further information on this process

is available in *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents* (USEPA, July 1999).

- **Remedial Design (RD)** – This phase begins after the final remedy has been selected and documented in a ROD. The RD phase includes establishing information and performance objectives, obtaining design information from the military installation, and discussing the design concept with technical experts.

- **Remedial Action-Construction (RA-C)** – The RA-C phase is the construction of and/or implemented cleanup remedy noted in the ROD and designed in the RD phase. When the RA-C phase is complete, the Army classifies the site as Remedy-in-Place (RIP).

- **Remedial Action-Operation (RA-O)** – The RA-O phase takes place while the remedy is operating or in progress, and the performance of the remedy is monitored to measure progress toward the remediation goals.

- **Long-Term Management (LTM)** – Post-project activities such as long-term monitoring or LTM also may be required to document the continued effectiveness of the selected remedy. At the point in the restoration process when restoration goals have been met and No Further Action (NFA) is warranted, "closeout" occurs. For any site that is not restored to a condition that allows unlimited use/unrestricted exposure (UU/UE), the protectiveness of the remedy is reviewed during the Five-Year Review process.

2.3.2 Regulatory/Policy

The DERP is the statutory authority that establishes an environmental restoration program for DoD. The scope of the DERP is defined in 10 United States Code (USC) § 2701(b), which states: *"Goals of the program shall include the following: (1) identification, investigation, research and development, and cleanup of contamination from a hazardous substance, or pollutant or contaminant; (2) correction of other environmental damage (such as detection and disposal of unexploded ordnance) which creates an imminent and substantial endangerment to the public health or welfare or to the environment; (3) demolition and removal of unsafe buildings and*

structures, including buildings and structures of the DoD at sites formerly used by or under the jurisdiction of the Secretary."

When Congress established the DERP, they directed that DoD cleanup efforts be consistent with the CERCLA. CERCLA requires that cleanup efforts at federal facilities be conducted in accordance with the requirements in Section 120, 42 USC § 9620 of CERCLA. Executive Order 12580 delegates authority for implementing CERCLA to various federal officials, including the DoD. In order to have a common framework for managing a national cleanup program, the Army uses CERCLA as the primary legislative authority for managing environmental cleanup. However, the RCRA is also an acceptable legislative authority for managing environmental cleanup. RCRA is implemented by the USEPA, but it allows for the authorization of the state governments to enforce hazardous waste regulatory programs.

According to CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), the Army is the lead agency responsible for all remedial actions at the installation that are not solely related to underground storage tanks (USTs), with oversight by the USEPA and Texas Commission on Environmental Quality (TCEQ) (formerly the Texas Water Commission). However, RCRA regulates how the remedial actions pertaining to solid and hazardous wastes and USTs, should be managed to avoid potential threats to human health and the environment. The role of the state is outlined in CERCLA §120(f) and 40 CFR §300.500, which affords the State an opportunity to participate in the planning and selection of the remedial action, including review of all applicable data in development of studies, reports, and action plans. Within this process, when a state promulgated environmental or facility siting law becomes an ARAR, the remedial action must meet that requirement, unless a waiver is invoked. This CIP is based on guidance for CERCLA cleanup activities, §§ 9601 to 9675, as implemented by the NCP 40 CFR Part 300.

Due to concerns identified during environmental investigations in the early 1980s, LHAAP was placed on the NPL on August 9, 1990, with a Hazard Ranking Score of 40. The NPL is a list of national priorities among the known and threatened releases of hazardous substances throughout the United States. Sites that score higher than a 28.5 on the Hazard Ranking System (a screening device to evaluate a site's relative threat to human health and the environment) are eligible for

inclusion on the NPL. Installations on the NPL are tracked under the USEPA's Superfund Program and may require additional investigation by the USEPA. A site can be deleted from the NPL if it is determined that no further cleanup response is required. LHAAP, USEPA, and TCEQ entered into a Federal Facility Agreement (FFA) for remedial activities at LHAAP which became effective on December 30, 1991. The general purpose of an FFA is to ensure that environmental impacts are thoroughly investigated and necessary remedial action is taken to protect public health, welfare, and environment; establish a framework and schedule for response actions; and facilitate involvement of all parties in those actions. The following sites are part of the FFA: LHAAP-001, -011, -012, -013, -014, -016, -017, -018, -024, -027, -029, and -032. Other sites were later added to the NPL; however, the FFA was not revised to include these sites: LHAAP-003, -004, -037, -046, -047, -049, -050, -058, -067, -001-R-01, -003-R-01, and -004-R-01.

The Army is the lead Agency at LHAAP and documentation pertaining to NPL sites listed in the FFA are submitted to USEPA and TCEQ for review and concurrence. Non-NPL sites are addressed under CERCLA with TCEQ as the lead regulator. LHAAP is obligated to conduct remedial actions in accordance with CERCLA, RCRA, and the policy and procedures documented in the DERP Manual (March 2012).

2.4 Cleanup Program at LHAAP

The IRP was initiated at LHAAP in June 1979, following environmental investigations in the 1970s. The MMRP was initiated in February 2002. Initially, a large number of potential cleanup sites were identified at LHAAP; however, since the 1980s, multiple investigations and sampling events have been conducted by the Army and currently there are 41 designated restoration sites at the installation. Restoration sites at LHAAP include areas impacted by ammunition production, burning, and storage activities; storage and disposal of wastes and hazardous materials; leaks and spills from aboveground storage tanks (ASTs) and USTs; and historic installation activities and operations. Multiple DDs and RODs have been signed for various sites since 2008. Contaminants of concern (COCs) include volatile organic compounds (VOCs); perchlorate; heavy metals; explosives; and POLs. Individual site cleanup/exit strategies are discussed in **Section 3.0**.

In accordance with DoD guidance (DoD Manual 4715.20, March 2012) and U.S. Army environmental regulation (AR 200-1, 2007), this installation-specific CIP is an integral requirement of DERP and is implemented by Army personnel. The plan serves as a guide and toolbox for IRP- and MMRP-related personnel and contractors, as well as for installation officials and personnel, in their efforts to inform and involve the local community. This plan is available to the public as part of the Administrative Record and Information Repository. Information Repository and Administrative Record locations and contact information are provided in **Appendix B**.

3.0 ACTIVE CLEANUP SITES AT LHAAP

The schedule for active LHAAP IRP sites, defined as LHAAP-001, -002, -003, -004, -006, -007, -008, -011, -012, -016, -017, -018, -019, -024, -029, -035, -036, -037, -046, -047, -049, -050, -051, -052, -055, -056, -058, -059, -060, -063, -064, -065, -066, -067, -068, -069, -070, and -071 are summarized in **Table 1**. The schedule for active MMRP sites, defined as LHAAP-001-R-01, LHAAP-003-R-01, and LHAAP-004-R-01, are summarized on **Table 2**. Site descriptions and cleanup/exit strategies are discussed in the following sections.

3.1 Closed Sites Under LTM with Land Use Restrictions

Investigations have been completed for the following sites. These sites are in the LTM phase with land usage restrictions. The LTM phase includes Five-Year Review reports in the form of a memorandum report or letter certifying proper land use. LTM is expected to continue indefinitely. A brief context for each site is included below.

- **LHAAP-001 (Inert Burning Grounds [SWMU 1])**

  Site LHAAP-001 (Solid Waste Management Unit [SWMU] 1 is closed and suitable for non-residential use. A no action ROD was signed by the Army and co-signed by USEPA with concurrence from TCEQ in February 1998.

- **LHAAP-011 (SUS TNT Burial Site at Ave P&Q [SWMU 11])**

  Site LHAAP-011 is closed and suitable for industrial use. An NFA ROD was signed by the Army and co-signed by USEPA with concurrence from TCEQ in February 1998.

- **LHAAP-052 (Magazine Area Washout)**

Site LHAAP-052 consists of a standpipe near the intersection of Avenue E and 19th that was used to wash out trucks used for transport of TNT. An NFA DD was finalized in September 2015.

- **LHAAP-063 (Burial Pits)**

LHAAP-063 was used in the late-1950s for the detonation of Plant 3 reject material of unknown composition. An NFA DD was finalized in September 2015.

- **LHAAP-070 (Loading Dock-Magazine Area)**

A spill of boxes of TNT was reported at LHAAP-070; however, site investigations have not identified visual evidence of TNT contamination, and NFA was required. An NFA DD was finalized in September 2015.

- **LHAAP-071 (Oil Spill, Building 813)**

In 1978, an oil tank spill occurred at LHAAP-071. The spill was contained before it could reach Central Creek. An NFA DD was finalized in September 2015.

3.2 Sites with Notifications for Land Use Filed with Harrison County

Investigations have been completed for the following sites and notifications (not a remedy or land use control [LUC]) have been filed with Harrison County, TX stating the sites are suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. The sites are in the LTM phase which includes Five-Year Review reports in the form of a letter stating the use of the site remains non-residential. LTM is expected to continue indefinitely at these sites. A brief context for the sites is included below.

- **LHAAP-002 (Vacuum Truck Overnite Parking Lot)**

Site LHAAP-002 is located within the LHAAP-058 LUC boundary.

- **LHAAP-006 (Building 54F Solvent)**

An NFA DD was signed for LHAAP-006 in December 2008.

- **LHAAP-007 (Building 50G Drum Processing)**

Site LHAAP-007 was originally closed under RCRA in 1987. An NFA DD under CERCLA was signed in December 2008.

- **LHAAP-008 (Sewage Treatment Plant)**

Site LHAAP-008 was originally closed under RCRA in 1987. An NFA DD under CERCLA was signed in December 2008.

- **LHAAP-019 (Construction Materials Landfill)**

An NFA DD under CERCLA was signed in early 2014.

- **LHAAP-035 (Sumps [145] Various)**

Sumps were located in different production areas throughout LHAAP and remediation activities were consolidated under LHAAP-035. Many of the sumps were removed or closed in 1996. Several buildings where the sumps were located had historical perchlorate use. The following sites with previous sumps are associated with LHAAP-35: LHAAP-002, -003, -004, -006, -007, -008, -036, -037, -058, -060, -065, and -068. The RA-C phase consisted of soil removal around the sumps. An NFA DD was signed in 2010.

- **LHAAP-036 (Explosive Waste Pads [27])**

Site LHAAP-036 consisted of 20 waste pads made of four feet by eight feet concrete pads with metal roofs. An NFA DD was signed in November 2010.

- **LHAAP-049 (Former Acid Storage Area)**

Site LHAAP-049 was used from 1942 to 1945, for the storage and formulation of acids and acid mixtures to support TNT production during WWII. LHAAP-049 was originally grouped under LHAAP-029 due to the associated plant functions (the acid plant was where acids were received and prepared for use in the TNT manufacturing). In 2009, the final site evaluation was completed and the NFA ROD was finalized in 2010.

- **LHAAP-051 (Photographic Laboratory/Bldg #60B)**

Site LHAAP-051, or Building 60B, was used to process x-ray film and was closed under RCRA. An NFA DD was signed in December 2008.

- **LHAAP-055 (Septic Tank [10])**

Site LHAAP-055 was closed under RCRA guidelines. An NFA DD under CERCLA was signed in December 2008.

- **LHAAP-056 (Vehicle Wash Rack and Oil/Water Separator)**

Site LHAAP-056 consisted of a wash rack that sloped to a drain that was connected to an oil/water separator. Discharge to an on-site drainage ditch was permitted. The sump on the site was investigated under LHAAP-035. An NFA DD was signed in early 2014. The site is in LTM. The site is located within the LHAAP-058 LUC boundary.

- **LHAAP-059 (Building 725)**

Building 725 was constructed as a pesticide storage building in 1984 to support maintenance activities at the installation. Site inspections determined that there had been no significant releases of contamination at the site. An NFA DD was finalized in August 2008. The site is located within the LHAAP-058 LUC boundary.

- **LHAAP-060 (Former Storage Building #411 and #714)**

Site LHAAP-060 consists of two buildings that were formerly used to store pesticides and herbicides. An NFA DD was signed in December 2008. This site is located within the LHAAP-058 LUC boundary.

- **LHAAP-064 (Transformer Storage)**

Site LHAAP-064 was used for the storage of non-polychlorinated biphenyl (PCB) transformers. An NFA DD was signed in December 2008.

- **LHAAP-065 (Building 209)**

Building 209 was used for chemical storage of items such as paints and solvents. The building has a concrete floor with floor drains connected to sumps. A DD was finalized for the site in early 2014. The site is in LTM. The site is located within the LHAAP-058 LUC boundary.

- **LHAAP-066 (Transformer at Building 401)**

The transformer located at Building 401 dripped oil for approximately one year; however, the transformer did not contain PCBs, so NFA was required. An NFA DD was signed in December 2008. The site is located within the LHAAP-058 LUC boundary.

- **LHAAP-068 (Mobile Storage Tank Parking Area)**

In 1993, LHAAP-068 was corrected under RCRA guidelines. An NFA DD was signed in December 2008. The site is located within the LHAAP-058 LUC boundary.

- **LHAAP-069 (Service Station UST's)**

  In 1993, LHAAP-069 was corrected under RCRA guidelines. An NFA DD was finalized in early 2014. The site is in LTM. The site is located within the LHAAP-058 LUC boundary.

3.3 Sites in the RA-O Phase

Investigations have been completed for the following sites and the sites are in the RA-O phase with Five-Year Reviews. RA-O is expected to continue indefinitely. A brief context for the sites is included below.

- **LHAAP-012 (Active Landfill [SWMU 12])**

  Site LHAAP-012, or Landfill 12, was previously referred to as the Active Landfill. The site encompasses seven acres which were used for disposal of non-hazardous industrial waste. The landfill was used intermittently from 1963 through 1978, and continuously until March 1994. The rear portion of the landfill was closed before 1994. COCs at LHAAP-012 are VOCs in groundwater. Site inspections conducted in 1993 identified the need for an early interim remedial action (IRA) in the form of a landfill cap to reduce further contamination of the site's groundwater. Installation of the cap was completed in 1997 by using treated soils from LHAAP-18 as subgrade fill. In 1998, cap maintenance was initiated. In 2002, the RI was completed, which identified the presence of COCs and contaminants of potential concern (COPCs). In 2005, the FS was finalized and the recommended final remedy included monitored natural attenuation (MNA) with LUCs (cap protective provisions and groundwater restrictions). In August 2006, sampling for MNA was initiated. The PP addressing human and ecological risk was completed. In July 2006, the ROD was signed, followed by the RD in June 2007. An installation-wide ecological risk assessment did not identify COCs in the surrounding sediment or surface water. RA-O involves continued groundwater monitoring and LUC maintenance.

- **LHAAP-037 (Chemical Laboratory Waste Pad)**

  Site LHAAP-037, or the Chemical Laboratory Waste Pad, is the collection point for spent solvents from the quality assurance lab and consists of one 55-gallon drum on a

concrete pad. COCs at LHAAP-037 are VOCs in groundwater. The ROD was finalized in August 2010, and included MNA and LUCs. The RD was finalized in August 2011. The Remedial Action Work Plan (RAWP) was finalized in 2013, and RIP was achieved in September 2013. The RA-O phase was placed on hold in 2012, while a two-year aerobic bioplug demonstration was implemented at the site. The study was completed in 2014, and the aquifer was monitored for return to pre-study conditions before proceeding to the RA-O. RA-O involves continued groundwater monitoring and LUC maintenance.

- **LHAAP-046 (Plant 2 Area)**

Facilities at LHAAP-046 were used for production of JB-2 propellant fuel between 1944 to 1945. Between 1952 to 1956, the site was used to produce pyrotechnic ammunition: photoflash bombs, simulators, and tracers for 40mm ammunition. Between 1964 to 1997, pyrotechnic and illuminating devices were produced. The COCs at LHAAP-046 are VOCs in groundwater. The ROD was finalized in September 2010, and included MNA for groundwater and LUCs. The RD was finalized in 2011. The RAWP was finalized in 2013, and RIP was achieved in April 2013. The site is in the RA-O phase which will continue indefinitely and include MNA and LUCs.

- **LHAAP-050 (Former Waste Disposal Facility)**

LHAAP-050 is an approximately one-acre site that received wastewater from the sumps at Plant 2 and 3 from 1955 to the early-1970s. Washout of ammonium perchlorate was also performed at the site. COCs at LHAAP-050 are metals, perchlorate, and VOCs in soil and groundwater. In 2002, the RI was completed. The FS and ROD were finalized in 2010. The ROD includes soil removal, MNA for groundwater, and LUCs (groundwater restriction). In 2004, additional data gap sampling was completed. In February 2008, an additional shallow well was installed downgradient of the site. The RD was finalized in 2011. The RAWP was finalized in 2013, and RIP was achieved in September 2013. The site is in the RA-O phase which will continue indefinitely and include MNA and LUCs.

- **LHAAP-058 (Maintenance Complex)**

Site LHAAP-058 is also known as the shops area and provided plant-operated laundry, automotive, woodworking, metalworking, painting, refrigeration, and electrical

services. The COCs at LHAAP-058 are VOCs in groundwater. The ROD was finalized in 2010 and includes in-situ bioremediation for the eastern groundwater contamination plume, and MNA and LUCs (groundwater use restriction) for the eastern and western groundwater plumes. The site is in the RA-O phase. Five-Year Reviews for LHAAP-002, -003, -056, -059, -060, -065, -068, and -069 are captured under LHAAP-058, as these sites are located within the shops area. The RD was finalized in 2011. In 2013, the RAWP was finalized and RIP was achieved. The cleanup/exit strategy for LHAAP-058 includes in-situ bioremediation and MNA for groundwater. It is expected that the RA-O phase will continue indefinitely and will include MNA and LUCs.

- **LHAAP-067 (Above Ground Storage Tank)**

Site LHAAP-067 consisted of seven ASTs containing No. 2 fuel oil, kerosene, or solvents. The ASTs had earthen dikes sufficient to contain a potential spill. Motor fuel tanks registered with the state have been removed from the site. Central Creek runs to the south of the site. COCs at LHAAP-067 are VOCs in groundwater. VOCs were detected in groundwater at the site in 2001. In 2002, the RI was completed. In 2004, additional sampling was conducted and the final FS was completed in August 2005. The ROD was finalized in August 2010 and includes MNA and LUCs (groundwater use restriction). The site is in the RA-O phase. The RD was finalized in 2011. The RAWP was finalized in 2013 and RIP was achieved in April 2013. It is expected that RA-O will continue indefinitely and will include MNA and LUCs.

3.4 LHAAP-003 (Building 722-Paint Shop)

Site LHAAP-003 was an open-sided waste collection shed with a gravel pad floor outside of the Paint Shop (Building 711-P). The building was used for paint spraying and polyurethane spray coating of various items. Heavy metal-based primers, and other waste solvents and contaminated rags were collected in a 55-gallon drum in the shed. COCs at LHAAP-003 are metals in soil.

In August 2009, the Site Investigation Report identified soil contaminated with levels of metals exceeding medium-specific concentrations (MSC). An RI/FS was finalized to evaluate removal

action alternatives for the contaminated soil. The site is located within the LHAAP-058 LUC boundary.

The cleanup/exit strategy for LHAAP-003 involves completion of the ROD and RD, at which point RIP will be accomplished. The remedy being considered includes excavation and off-site disposal. It is expected that LTM will include Five-Year Reviews documented under LHAAP-58.

3.5 LHAAP-004 (LHAAP Pilot Wastewater Treatment Plant)

The LHAAP Pilot Wastewater Plant was closed under RCRA guidelines in November 1997. A 2007 Installation-Wide Baseline Ecological Risk Assessment did not identify any potential risk to ecological receptors. Additional investigations completed after the risk assessment identified the presence of unacceptable levels of mercury and perchlorate in soil with the potential to migrate into groundwater. In a 2009 Engineering Evaluation/Cost Analysis (EE/CA), soil removal was recommended. Soil removal was completed and documented in the Non-Time Critical Removal Action Report. During soil removal, a small plume of groundwater contaminated with perchlorate was identified. The COC at the site is perchlorate in the groundwater.

In August 2012, a groundwater FS evaluating remedial alternatives was completed. RD is planned for 2017. RA-C is planned for 2018.

The cleanup/exit strategy for LHAAP-004 involves completion of the RD, accomplishment of RIP, and implementation of RA-O. The remedy includes in-situ bioremediation, long-term monitoring and LUCs. It is expected that RA-O will continue indefinitely, and will include long-term monitoring and LUCs.

3.6 LHAAP-016 (Old Landfill [SWMU 16])

The 22-acre site was used for disposal of products generated from the TNT wastewater treatment plant (WWTP) and potentially included burned rocket motor casings; substandard TNT; barrels of chemicals, oil, and paint; scrap iron; and wood. COCs at LHAAP-016 are perchlorate and VOCs in groundwater, soil, and surface water.

Samples collected at the site identified VOCs and metals exceeding action levels in soil, surface water, and groundwater; and low levels of explosive compounds in groundwater. Site inspections conducted in 1993 identified the need for an early IRA in the form of a landfill cap to reduce further contamination of groundwater at the site. Installation of the cap was completed in 1998, by using treated soils from LHAAP-18/24 as subgrade fill. In late-1997, as part of the treatability study, eight extraction wells were installed to prevent contaminated groundwater from impacting Harrison Bayou. The system is still in operation, but extracted water volume is low. The extracted water is piped to the LHAAP-18 groundwater treatment plant (GWTP). In 2002, the RI and a Five-Year Review were completed. The FS and PP were finalized in 2010. Quarterly samples collected from the surface water of Harrison Bayou have not detected significant contamination. The ROD was signed in 2016.

The cleanup/exit strategy for LHAAP-016 involves accomplishment of RIP and implementation of RA-O. The remedy includes maintenance of the existing cap, enhanced LUCs, in-situ bioremediation in a target area, biobarriers, and MNA. It is expected that RA-O will continue indefinitely and will include MNA, maintenance of the cap, and LUCs.

3.7 LHAAP-017 (No 2 Flashing Area Burning Ground [SWMU 17])

In 1959, demolished buildings from LHAAP-029 (former TNT production area) were burned at LHAAP-017. Between 1959 to 1980, the approximately 500 feet by 500 feet site was used to burn bulk TNT, photoflash powder, and rejected material from Universal Match Corporation's production processes. The site is located 400 to 500 feet southwest of Burning Ground No 3 (LHAAP-018). COCs at LHAAP-017 are explosives, perchlorate, and VOCs in groundwater and soil.

In 1984, waste residues were removed and the area was vegetated with grass. Samples collected at the site identified VOCs and explosive compounds in groundwater, and explosive compounds in soil. In 2002, the RI was completed and perchlorate was detected in the soil. The FS and PP were finalized in 2010. The ROD was signed in 2016.

The cleanup/exit strategy for LHAAP-017 involves the completion of pre-design investigation, RD and RA, at which point RIP will be accomplished. The remedy includes groundwater extraction followed by MNA for groundwater, and excavation and disposal for soil. It is expected that RA-O will continue indefinitely and will include MNA and LUCs.

3.8 LHAAP-018 (Burning Ground/Washout Pond [SWMU 18]) and LHAAP-024 (Former Unlined Evaporation Pond [SWMU 24])

Site LHAAP-018 is also known as Burning Ground No 3. Operations at the 34.5-acre site were initiated in 1955 and included treatment, storage, and disposal of solid and liquid explosives, pyrotechnics, and combustible solvent wastes by open burning, open detonation, and burial. In 1963, the three-acre unlined evaporation pond (UEP) (LHAAP-24) was constructed within the site. COCs at LHAAP-018 are metals, perchlorate, and VOCs in groundwater, soil, and surface water.

Samples collected at the site identified explosive compounds, VOCs, and metals in soil and groundwater. In 1986, sludge from the UEP was removed and the area was capped. Quarterly monitoring has been conducted since closure of the UEP. In May 1995, an IRA ROD was signed which addressed soil and groundwater contamination. In 1997, 30,000 cubic yards of soil were excavated and treated, and used for fill in LHAAP-012 and -016. A GWTP with approximately 5,000 feet of interception collection trenches was installed to control migration of contaminated groundwater. After treatment, the extracted groundwater is discharged into Harrison Bayou. Perchlorate was detected at the site in 1998 and 1999, and a fluidized bed reactor treatment system was installed in 1999. In 2002, the RI and a draft FS were completed. In September 2007, an optimization pilot study was initiated for the groundwater extraction system. The report was completed in February 2009. In 2013, a Post-Screening Investigation Work Plan was finalized to address site data gaps and support completion of the RI/FS. The post-screening investigation work continued until 2016, and a revised FS was completed in 2017.

The cleanup/exit strategy for LHAAP-018 involves completion of the PP, ROD, RD and RA-C, at which point RIP will be accomplished. The remedy being considered includes optimization of the groundwater extraction system, in-situ treatment, and MNA. It is expected that RA-O will continue indefinitely and will include groundwater extraction, MNA, and Five-Year Reviews.

3.9 LHAAP-029 (Former TNT Production Area [SWMU 29])

Site LHAAP-029, also known as the Former TNT Production Area, consists of approximately 85 acres. The site was in operation from April 1943 to August 1945, as a six-line plant with a supporting acid plant. The plant produced 180 million kilograms of TNT during its operation. A bulk toluene storage area was located adjacent to the production area. The TNT wastewater (red water) was sent through wooden pipelines to a storage tank and pump house, and then to the TNT WWTP (LHAAP-032). Cooling water (blue water) ran through main lines into an open ditch. In 1959, the structures (except for the foundations) were demolished and removed. During the late 1980s, approximately two acres of the northeastern portion of the site were used for the washout of Pershing 1 and 2 rocket motor casings using trichloroethylene (TCE) and methylene chloride. COCs at LHAAP-029 are MC, perchlorate, and VOCs in groundwater, sediment, soil, and surface water.

Samples collected at the site have identified explosive compounds in soil, surface water, sediment, and groundwater. High levels of VOCs have been identified in groundwater. Dense non-aqueous phase liquids are also suspected of being present. In 2000, perchlorate was detected in the soil. In 2002, the RI and a draft FS were completed. Additional soil and groundwater data were collected from fiscal year (FY)2005 to FY2006. A revised FS was finalized in 2010. Fieldwork to support an addendum to the RI/FS was completed in 2013, the RI Addendum was completed in 2016, and the FS Addendum is underway.

The cleanup/exit strategy for LHAAP-029 involves completion of the ROD, RD and RA-C, at which point RIP will be accomplished. The remedy being considered includes in-site groundwater remediation followed by MNA, flushing and plugging lines, and excavation and disposal of soil and sediments. It is expected that RA-O will continue indefinitely and will include MNA and LUCs.

3.10 LHAAP-047 (Plant 3 Area)

Site LHAAP-047 was used to produce rocket motors from 1954 to the early-1980s. Some of the rocket motor facilities were converted to produce pyrotechnic and illumination devices until 1997. COCs at LHAAP-047 are metals, perchlorate, and VOCs in the soil and groundwater.

Site investigations determined the COCs for the site, and determined a soil source for perchlorate contamination. The FS was finalized in July 2011.

The cleanup/exit strategy for LHAAP-047 involves a post-screening investigation to inform the ROD, ROD, RD and RA, at which point RIP will be accomplished. The remedy being considered includes bioaugmentation, biobarriers, and MNA. It is expected that RA-O will continue indefinitely and will include MNA and Five-Year Reviews.

Table 1. LHAAP Active IRP Sites and Schedule

Site ID	Site Name	Phase	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-001	INERT BURNING GROUNDS (SWMU 1)	LTM						
LHAAP-002	VACUUM TRUCK OVERNITE PARKING LOT	LTM						
LHAAP-003	BUILDING 722-PAINT SHOP	RI/FS						
		RD						
		RA-C						
LHAAP-004	LHAAP PILOT WASTEWATER TREATMENT PLANT	RD						
		RA-C						
		RA-O						
LAHHP-006	BUILDING 54F SOLVENT	LTM						
LHAAP-007	BUILDING 50G DRUM PROCESSING	LTM						
LHAAP-008	SEWAGE TREATMENT PLANT	LTM						
LHAAP-011	SUS TNT BURIAL SITE AT AVE P&Q (SWMU11)	LTM						
LHAAP-012	ACTIVE LANDFILL (SWMU 12)	RA-O						
LHAAP-016	OLD LANDFILL (SWMU 16)	RD						
		RA-C						
		RA-O						
LHAAP-017	NO 2 FLASHING AREA BRN GROUND (SWMU 17)	RI/FS						
		RD						
		RA-C						
		RA-O						
LHAAP-018	BURNING GROUND/WASHOUT POND (SWMU 18)	RD						
		RA-C						
		RA-O						
LHAAP-019	CONSTRUCTION MATERIALS LANDFILL	LTM						
LHAAP-024	FORMER UNLINED EVAP POND (SWMU 24)	RD						
		RA-C						
		RA-O						
LHAAP-029	FORMER TNT PRODUCTION AREA (SWMU 29)	RI/FS						
		RD						
		RA-C						
		RA-O						

LHAAP-035	SUMPS (145) VARIOUS	LTM						
LHAAP-036	EXPLOSIVE WASTE PADS (27)	LTM						
LHAAP-037	CHEMICAL LABORATORY WASTE PAD	RA-O						
LHAAP-046	PLANT 2 AREA	RA-O						
LHAAP-047	PLANT 3 AREA	RI/FS						
		RD						
		RA-C						
		RA-O						
LHAAP-049	FORMER ACID STORAGE AREA	LTM						
LHAAP-050	FORMER WASTE DISPOSAL FACILITY	RA-O						
LHAAP-051	PHOTOGRAPHIC LABORATORY/BLD #60B	LTM						
LHAAP-052	MAGAZINE AREA WASHOUT	LTM						
LHAAP-055	SEPTIC TANK (10)	LTM						
LHAAP-056	VEHICLE WASH RACK AND OIL/WATER SEP	LTM						
LHAAP-058	MAINTENANCE COMPLEX	RA-O						
LHAAP-059	BUILDING 725	LTM						
LHAAP-060	FORMER STORAGE BUILDING #411 & #714	LTM						
LHAAP-063	BURIAL PITS	LTM						
LHAAP-064	TRANSFORMER STORAGE	LTM						
LHAAP-065	BUILDING 209	LTM						
LHAAP-066	TRANSFORMER AT BLDG 401	LTM						
LHAAP-067	ABOVE GROUND STORAGE TANK	RA-O						
LHAAP-068	MOBILE STORAGE TANK PARKING AREA	LTM						
LHAAP-069	SERVICE STATION UST'S	LTM						
LHAAP-070	LOADING DOCK-MAGAZINE AREA	LTM						
LHAAP-071	OIL SPILL, BLDG 813	LTM						

- phase underway

3.11 LHAAP-001-R-01 (South Test Area/ Bomb Test Area)

LHAAP-001-R-01 is an approximately 79-acre site that is also known as the environmental site LHAAP-027. The site is located southeast of Avenue P and the magazine area, at the end of 70th street, near the southern boundary of LHAAP. The site was constructed in 1954 and used by Universal Match Corporation to test 150-pound M120/M120A photoflash bombs filled with photoflash powder and black powder booster charge. Operations continued at the site until 1956. The bombs were tested by exploding them in the air over an elevated, semi-earthen test pad. Bombs waiting to be tested were stored in three earthen-covered bunkers. Due to its location, fragments from testing landed beyond the installation boundary. During the late-1950s, illuminating signal devices were demilitarized in pits at the site. During the early-1960s, leaking

production items were demilitarized at the site. COPCs at LHAAP-001-R-01 are explosives in groundwater and soil.

The site was investigated in 1982, which included soil and groundwater sample collection. Results from the samples identified explosives, metals, chloride, and sulfate above background levels in the soil. The May 1997 final RI Report for Group I Sites determined that approximately 52,000 one-half pound and one-pound photoflash cartridges were demilitarized at the site. In January 1998, an NFA ROD was signed by USEPA based on the site-specific risk analysis for human and ecological exposure to the COPCs for the site.

In 2004, an Explosive Ordnance Division (EOD) unit at Fort Polk blew in place one 155mm white phosphorous round. In a 2005 Environmental Baseline Survey, it was identified that white phosphorous operations at LHAAP were assembly and packout operations only, and that no loading of materials was conducted at the site. The identification of the round as being live is therefore suspect. A reported demolition site was identified on the northwest perimeter of the site and was added to the investigation. In FY2008, an EE/CA was approved and signed. A final Explosive Safety Submission was completed in March 2008, and a munitions and explosives of concern (MEC) (UXO) removal action was completed in 2008. The ROD was signed in December 2016 and included limited groundwater monitoring for perchlorate and LUCs (restrictions against digging and residential use, and signage maintenance).

The cleanup/exit strategy for LHAAP-001-R-01 involves completion of the RD, RA-C and one more year of groundwater monitoring, at which point RIP will be accomplished. It is expected that LTM will continue indefinitely and will include LUC maintenance and Five-Year Reviews.

3.12 LHAAP-003-R-01 (Ground Signal Test Area)

LHAAP-003-R-01 is an approximately 80-acre site that is also known as the environmental site LHAAP-54. The site is located in the southeastern portion of LHAAP. From 1963, the site was intermittently used for aerial and on-ground testing; and destruction of a variety of devices such as: red phosphorous smoke wedges, infrared flares, illuminating 60mm and 81mm shells, illuminating 40mm to 155mm cartridges, button bombs, and various types of explosive simulators.

The site was also used intermittently during a 20-year period for testing and burnout of rocket motors. Around 1970, one of the rocket motors exploded in an excavated pit near the center of the site and debris was reportedly placed in the resulting crater and backfilled. From late-1988 to 1991, the site was used for the burnout of rocket motors in missiles destroyed in accordance with the Intermediate-Range Nuclear Force Treaty between the United States and the former Soviet Union. The site is currently undeveloped. COPCs at LHAAP-003-R-01 are explosives in soil and groundwater.

In January 1998, an NFA ROD for hazardous, toxic and radioactive waste (HTRW) under CERCLA was signed. In FY2008, an EE/CA was approved and signed. The final Explosive Safety Submission was completed in March 2008, and a MEC (UXO) removal action was completed in 2008. The ROD was signed in December 2016 and included limited groundwater monitoring for perchlorate and LUCs (restrictions against digging and residential use, and signage maintenance). No exceedances of groundwater standards have been detected and no further groundwater monitoring is required.

The cleanup/exit strategy for LHAAP-003-R-01 involves completion of RD and RA-C, at which point RIP will be accomplished. It is expected that LTM will continue indefinitely and will include LUC maintenance and Five-Year Reviews.

3.13 LHAAP-004-R-01 (Pistol Range)

The pistol range was established in the 1950s and was used intermittently by LHAAP security personnel for small arms target qualification and recertification until 2004. COCs at LHAAP-004-R-01 are metals in the soil.

Site investigation results identified areas where the surface and near surface soil was contaminated with lead levels that exceeded the TCEQ MSC for industrial use. A non-time critical removal action was completed and the IRA became the final remedial action (FRA). An NFA ROD was finalized in August 2010. A notification (not a remedy or LUC) has been filed in Harrison County, TX stating that the site is suitable for non-residential use in accordance with Texas Administrative Code Title 30 §335.566. The site is in the LTM phase which includes Five-Year Review reports

in the form of a letter stating the use of the site remains non-residential. LTM is expected to continue indefinitely.

The cleanup/exit strategy for LHAAP-004-R-01 is continued LTM in the form of Five-Year Reviews.

Table 2. LHAAP Active MMRP Sites and Schedule

Site ID	Site Name	Phase	FY17	FY18	FY19	FY20	FY21	FY22+
LHAAP-001-R-01	SOUTH TEST AREA/BOMB TEST AREA	RI/FS						
		LTM						
LHAAP-003-R-01	GROUND SIGNAL TEST AREA	LTM						
LHAAP-004-R-01	PISTOL RANGE	LTM						

- phase underway

4.0 COMMUNITY PROFILE

The following subsections present an overview of the surrounding community and a general chronology of community participation and communications to date, as well as the results of the community interviews conducted for this CIP.

4.1 Harrison County

Harrison County is located in the northeastern portion of Texas along the Louisiana border. The county was created in 1839 and incorporated in 1842.

Census data from 2010 for Harrison County showed the following:

- 65,631 people
  - 49.1% male
  - 50.9% female
- 27,704 housing units

Harrison County Population by Race:

- 68.6% Caucasian
- 21.9% African American
- 0.5% Asian
- 0.7% American Indian/Alaska Native
- 8.3% Other

Harrison County Population by Age:

- 14.3% - 0 to 9 years
- 27% - 10 to 29 years
- 18.1% - 30 to 44 years
- 27.4% - 45 to 64 years
- 13.2% - 65+ years

4.1.1 City of Uncertain

The City of Uncertain is located within Harrison County. The city is located along the shores of Caddo Lake.

Census data from 2010 for the City of Uncertain showed the following:

- 94 people
  - 55.3% male
  - 44.7% female
- 146 housing units

City of Uncertain Population by Race:

- 78.7% Caucasian
- 21.3% African American
- 0% Asian
- 0% American Indian/Alaska Native
- 0% Other

City of Uncertain Population by Age:

- 1.1% - 0 to 9 years
- 6.4% - 10 to 29 years
- 8.5% - 30 to 44 years
- 44.7% - 45 to 64 years
- 39.3% - 65+ years

4.1.2 Karnack

Karnack is a rural unincorporated community on the northeastern portion of Harrison County. No census data is available for Karnack.

4.2 History of Community Involvement

In March 1992, a Technical Review Committee (TRC) was established for LHAAP in order to provide a close working relationship between the Army, the regulatory community, and the local public community. The formation of a Restoration Advisory Board (RAB) was attempted in 1996 and 1998; however, the community involvement in the TRC was deemed sufficient for community needs. A RAB is a partnership between the surrounding community, the installation, the State, and the USEPA that provides a forum for discussions to increase community understanding and support for cleanup efforts. It helps with improving the soundness of government decisions and ensuring cleanups are responsive to community needs. The TRC was dissolved by BRAC officials in 2004 when control of LHAAP was transferred to the BRAC division.

In September 2004, in response to public notices and private mailings, a RAB-interest meeting was held. The first RAB meeting was held in December 2004. The RAB meets quarterly and public meetings are held for each PP. The RAB consists of community members, Army representatives, and federal/state/local regulators.

The LHAAP Environmental Restoration Program also maintains a website, available at: www.longhornaap.com

4.3 Community Feedback

This section describes the methodology that LHAAP used to collect community input during the CIP process. This section also summarizes the communication preferences and concerns of the interviewees.

4.3.1 Interview Participants

In late October 2015, LHAAP sent out questionnaires by mail to over 1,500 addresses in the Karnack/Uncertain zip code. Results from responses to the 2015 questionnaire were used to prepare this CIP.

4.3.2 Issue Identification Approach and Findings

The primary purpose of collecting input from the community is to identify issues and concerns so that the Army can address them via community involvement efforts. The Army received 71 responses to the questionnaires that were sent to the Karnack/Uncertain zip code. The comments and insights from the responses provide information to help design the LHAAP community involvement programs. These findings are representative only of the individuals who participated in the community interviews and should not be construed as directly representative of the larger population. The interview questions and responses are provided in **Table 3**. A copy of the 2015 CIP questionnaire is included in **Appendix C**.

Table 3. Community Interview Responses

Question	Response
1.) a. How long have you lived in the community?	a. Less than 5 years = 10 5 to 10 years = 7 10 to 20 years = 24 20+ years = 29
b. What do you do for a living?	b. Answers included the following (several professions listed were used in multiple answers): Paralegal; Retired; Contract Laborer; Forestry/Wildlife Management; Real Estate; Property Manager; Carpenter; Antique Store Owner; Build and Remodel Houses; Self-Employed; Homemaker; Fish Camp Operator/Owner; Roofer; Park Ranger; Habitat and Wildlife Specialist; Correctional Officer; Farmer; Software Engineer; Manager; Deputy Sherriff; Mechanic; Contractor; School Teacher; Author; Pastor/Teacher; Pharmacist; Land Owner; Fireman; Social Worker; Small Business Owner; Sea Captain; Executive Director; Instructor; Machinist; Welder; Former Military; Insurance Agent; and College Administrator/Professor. Note: Some respondents did not provide an answer.
2.) How would you describe the current relationship between the community and the installation?	Positively = 17 Negatively = 11 Neutral = 10 Not Sure = 22 Note: Some respondents did not provide an answer.

Question	Response
3.) a. Are you familiar with the site/restoration program? b. If so, do you feel you have the opportunities you need to learn about it/have input regarding the program/site?	a. Yes = 23 No = 32 Somewhat = 13 b. Yes = 10 No = 17 Note: Some respondents did not provide an answer.
4.) Please explain why this site is important to you?	Answers included the following: historical and natural value; concerned about pollution of water supply/groundwater and site contamination and how it is affecting the area; important for environmental protection/ wildlife (preserve); previous and current employment; recreational, fishing, and hunting area; responsible use of land management; no interest; close to home/part of the community; concern about hazards in living close by; public lands; future use; not sure and may need to know more to evaluate importance; and concern that enough is not being done. Note: Some respondents did not provide an answer.
5.) a. What information do you want about the site/restoration program? b. What do you think the community knows?	Answers for both questions included the following: plans and timelines; how can I be involved; more information about program; hiring opportunities; what contamination is present (how bad is it or is it safe) and how is cleanup being addressed (treatment methods), is the area open to visit; everything; why are tax dollars being spent on this; health effects of on-site contamination; future plans; transfer of lands to USFWS; who is in charge; and that history and the site are being preserved. Note: Some respondents did not provide an answer.

Question	Response
6.) a. What are your biggest issues/concerns and or fears about the protection or development of the site? b. Are there any additional issues, concerns or fears you have heard voiced by others in the community?	Answers for both questions included the following: health concerns from previous activities; harmful effects to the community; that the land remains clean; unawareness/lack of information; dangers of the site/on-site contamination (safety risks); no concerns; that the site will not get cleaned up; spread of contamination (groundwater and surface water); infighting between various government agencies; what is in place to protect the ecology; property value; how can one be sure the site is being developed within acceptable standards; why are there so many off-limit areas; national gas line; and the timeline for cleanup is too slow. Note: Some respondents did not provide an answer.
7.) What is your current source of information about the restoration program/site?	Site visits = 5 Word of mouth = 15 E-mail = 2 RAB/community meetings = 4 No information = 17 Community groups = 2 Newspapers/Bulletins = 15 Business relations = 1 Former employees = 1 Do not know = 2 Park ranger/USFWS = 2 Longhorn AAP website = 2 Internet = 3 Local news = 1 Questionnaire/the Army = 3 Note: Several responses listed multiple answers. Some respondents did not provide an answer.

Question	Response
8.) a. Are there community or church bulletin boards, storefronts, or other places where people post notices or signs about local events or activities? b. Where are the best places to post signs or notices about site activities and events?	a. Yes = 6 No = 7 b. Local Stores/Restaurants/Gas Stations = 44 Karnack Post Office = 24 Media Sources = 17 Chamber of Commerce = 2 Church notices = 6 Karnack Community Center = 5 Caddo Lake State Park = 4 Mailed Notices = 6 Greater Caddo Lake Association = 1 Caddo Lake Institute = 1 Caddo Lake Website/Bulletin = 1 Caddo Lake Water Office = 1 Uncertain Volunteer Fire Department Board/Station = 1 Signage = 1 Note: Several responses listed multiple answers. Some respondents did not provide an answer.
9.) What are the most popular newspapers, TV stations, and radio stations in the area?	ABC Channel 3 KTBS-TV = 29 NBC Channel 6 KTAL-TV = 22 Channel 12 KSLA Shreveport = 24 KPXJ CW 21 = 4 LBP-KLTS Channel 24 = 1 KMSS-TV Fox 33 = 6 KSHV Channel 45 = 1 Marshall News Messenger = 43 Shreveport Times = 3 Jefferson Jimplecute = 1 Thrifty Nickel = 1 Longview News Journal = 1 Radio (93.7, 98.1FM, 98.9FM, 102.5FM, KMHT, KWKH) = 24 Facebook/Twitter/Internet = 5 Note: Several responses listed multiple answers. Some respondents did not provide an answer.

Question	Response
10.) Have you had any contact with local, state, or other officials regarding the installation's environmental restoration program? a. If so, what was the nature of the contact? b. What kind of response did you receive?	Yes = 10 No = 52 a./b. Met the gentleman that raises weevils for giant Salvinia and got information about operation and program (2 responses); talked to Friends of Refuge, but did not get a lot of information; talked to Preservation of Caddo Lake, but did not get much information; attended community meetings, but response was fair or poor; attended community meeting, but there was a lack of answers or solutions; attended Friends of UNWR meetings; was employed by USFWS and thought I received good intel, smart people (USGWS, DoD, AECOM); asked about squirrel hunting/no because of potential contamination; attended a RAB meeting; requested to fly R/C electrical airplane, but request was denied; went to meet a contact person. Note: Some respondents did not provide an answer.
11.) Are you aware that the Former Longhorn AAP conducts a Restoration Advisory Board meeting quarterly? a. Do you get information from RAB members? b. Do you feel they represent your interests regarding the program/site?	Yes = 12 No = 50 a. Yes = 7 No = 23 b. Yes = 4 No = 11 Don't know = 7 Note: Some respondents did not provide an answer.

Question	Response
12.) a. Any concerns or suggestions of other RAB meeting locations? b. What locations should meetings be held?	a. Send information to people who show interest, make sure to get the word out/ publish meeting times and locations (in advance), more local outreach. b. Specific locations mentioned included: Karnack Community Center (current location), Karnack Town Hall, Marshall Convention Center, Marshall High School, Wildlife Refuge, Uncertain City Hall, State Park Meeting Hall, and River Bend. Note: Some respondents did not provide an answer.
13.) Have you even observed public notices identifying the time and locations of these meetings?	Yes = 9 No = 55 Note: Some respondents did not provide an answer.
14.) Do you understand the information bulletins, fact sheets etc., being shared with the public about the site?	Yes/Somewhat = 12 No = 16 Have not seen any = 26 Note: Some respondents did not provide an answer.
15.) Have you visited the site webpage? It is located at http://www.longhornaap.com. a. What did you think of it? b. What information was helpful? c. What aspects need improvement?	Yes = 7 No = 53 Was not aware = 10 a. Excellent/useful/informative, easy to navigate, helpful, not informative b. Yes c. Need progress report, keep it current and alive, some out of date information (admin record and meeting minutes), needs more pictures of areas being worked on. Note: Some respondents did not provide an answer.

Question	Response
16.) Are you aware of the information repository that is available for public use? It is located at the Marshall Public Library as well as the Longhorn website.	Yes = 6 No = 54
a. Have you ever used or do you think you would use the information repository?	a. Yes = 27 (have or will use) No = 17 Maybe = 14
b. What would you like to see in the repository?	b. Progress reports, progress of weevil and spraying on giant Salvinia; hunting information; regular messages to protect historical value and culture of Caddo Lake; updated information and maps of the area; status, goals, and timeframe of cleanup and transfer; park/trail riding; wildlife; detailed information; everything; plans for cleanup; some usage for the community as a whole; address health concerns; bomb removed; genuine data; artifacts; risks and responses to the risks; information on what there is to do on the property; reports on toxins; information on environment and safety risks; as much information as possible; historical data; pictures
c. Is the current location of the information repository convenient for you? If no, where would be convenient for you?	c. Yes = 24 (on-site or online) No = 18; Karnack Post Office, more public place (less isolated); Karnack; mailings to individuals, public service announcements; Uncertain City Hall; Community Center; Waskom
d. Have you ever used the administrative record on the web page?	d. Yes = 3 No = 51 Note: Some respondents did not provide an answer.

Question	Response
17.) Do you know anyone that would like to be added to the site mailing list? If so, would it be ok to get their contact information?	Yes = 12 No = 24 Note: Some respondents did not provide an answer.
18.) Do you have any other comments, questions, or concerns about the installation?	See Section 4.5. Note: Some respondents did not provide an answer.

4.4 Responses to Concerns

Based on the results of the interview process, the surrounding community is moderately unaware of the restoration program and its process. Though awareness of the program is low, a majority of respondents indicated that they would at least be interested in receiving more information about restoration activities. The overall consensus regarding the installation/community relationship was mixed. While many respondents expressed trust in the Army's handling of environmental restoration activities, they also indicated a desire for more open and honest communication. There was some distrust/skepticism expressed, and many respondents stated they were unaware of any relationship between the installation and the community.

A majority of the respondents were not aware of or only somewhat familiar with the environmental restoration program. Most did not respond as to whether they felt they have opportunities to learn about the program or have input regarding the program. Of the responses provided, most did not feel they have opportunities to learn or to provide input; however, several respondents stated they were interested in receiving information. Respondents stated that the area is important to them due to its historical and ecological value to the community as a preserve and natural area; and as a recreational, fishing, and hunting area. A portion of respondents stated that they were concerned with the potential contamination of the site and how it is affecting the site and the surrounding area, specifically groundwater and surface water in Caddo Lake. Some stated they did not have any interest or particular connection to the site; two respondents stated that they would need to know more about restoration activities to determine the importance of the site and evaluate whether enough is being done. Respondents wanted more information and were concerned about the

presence of contamination (especially groundwater) and how it affects the area. A need to provide plans, timelines, and simple outlines of remedy techniques was expressed. The respondents were also interested in the future use of the site. Respondents generally seemed interested in receiving more information about restoration efforts. There seems to be a general consensus that the public is unaware of specifics regarding restoration efforts, but they are interested in knowing more. When asked about individual and community fears/concerns, respondents reported that they were worried about whether they were safe from contamination. Fear of the spread of contamination and its potential health effects (cancer was mentioned in several responses) and effects on the ecology of the surrounding area were mentioned. Overall, respondents expressed desire for a clean site, with some respondents expressing concern over the slow timeline for cleanup.

A majority of respondents had not visited the restoration website and most were unaware of its existence. Several respondents indicated that they do not have access to a computer or the internet, but would like to receive information. For those respondents who had visited the website, they felt the website was excellent/useful/informational, easy to navigate, and helpful. They would prefer that the website be kept up to date and contain more pictures. One respondent stated they did not find the website helpful.

A majority of the respondents stated that they were not aware of the information repository and have not used it, but will use it now that they are aware it exists. Responses to whether the information repository is located in a convenient place were mixed; some said it was convenient (especially due to online access), but others suggested alternative locations (or alternative access methods) that were more convenient, such as Karnack Post Office, a more public place (less isolated), the town of Karnack, mailings to individuals, public service announcements, Uncertain City Hall, Karnack Community Center, and Waskom. The following were suggestions on what the respondents would like to see in the information repository: progress reports; progress of the weevil program and spraying of giant Salvinia; hunting information; regular messages to protect the historical value and culture of Caddo Lake; updated information and maps of the area; status, goals, and timeframe of cleanup and transfer; park/trail riding; wildlife; detailed information; everything; plans for cleanup; some usage for the community as a whole; address health concerns; bomb removal; genuine data; artifacts; risks and responses to the risks; information on what there

is to do on the property; reports on toxins; information on environment and safety risks; as much information as possible; historical data; and pictures. Overall it seems that few respondents were aware of the repository or its role, and what it contains.

4.5 Summary of Communication Needs

A majority of the respondents listed that they receive information about the restoration program/site through word of mouth or the newspaper; however, several respondents indicated that they had not received any information. A majority of respondents have not had contact with local, state, or other officials regarding the installation's restoration program. Most respondents were not aware of the quarterly RAB meetings, and thus did not receive information from RAB members or feel that RAB members represent their interests. Most respondents stated they have not observed public notices identifying time and location of RAB meetings. A majority of respondents stated that they have not seen information bulletins, fact sheets or the like that have been shared with the public. Respondents felt that the Army needed to send information to people who show interest, make sure to get the word out/ publish meeting times and locations in advance, and conduct more local outreach.

A majority of respondents stated they would like to see posted notices about site activities and events at local stores/restaurants/gas stations (the following were specifically named: Caddo Grocery, Circle S, Shady Glade, River Bend, Grub Shack, Jonesville General Store, County Store, Johnson Ranch, Fyffes, The Run In, and the Family Dollar Store), the Karnack Post Office, and through local media sources. The most popular local media preference appeared to be the local newspaper, followed by television and radio, and finally social media.

Respondents listed the following as the most popular newspapers in the area: Marshall News Messenger, Shreveport Times, Jefferson Jimplecute, Thrifty Nickel and Longview News. The following TV stations were listed as the most popular: Channel 3 (KTBS), Channel 6 (KTAL), Channel 12 (KSLA), Channel 21, 24, 33, 45, and Fox News. The following radio stations were listed as the most popular in the area: 93.7, 98.1FM, 98.9FM, 102.5FM, KMHT, KWKH. Facebook, Twitter, and the internet were listed as social media outlets

Respondents were also interested in seeing notices through community groups (Marshall and Uncertain Chamber of Commerce), local churches, Karnack Community Center, Caddo Lake State Park, Greater Caddo Lake Association, Caddo Lake Institute, Caddo Lake Website/Bulletin, Caddo Lake Water Office, and Uncertain Volunteer Fire Department Bulletin Board. Some respondents stated they preferred mailed or e-mailed notices, or posted signage. Respondents interested in being added to the site mailing list provided contact information on the questionnaire.

The following locations were mentioned by respondents as possible locations for RAB meetings: Karnack Community Center (current location), Karnack Town Hall, Marshall Convention Center, Marshall High School, Wildlife Refuge, Uncertain City Hall, State Park Meeting Hall, and River Bend. Suggested meeting locations are listed in **Appendix E**.

As a result of the 2015 community questionnaire, LHAAP expanded its outreach to beyond the e-mail distribution list and the display ad and media release in the Marshall News Messenger to include those additional outlets provided in **Appendix D**. LHAAP continues its website where RAB materials and RAB meeting announcements are made available to the public.

5.0 COMMUNITY INVOLVEMENT ACTIVITIES

The community involvement activities presented in this section are based on regulatory guidance outlined in the USEPA's *Superfund Community Involvement Handbook* (USEPA, 2016) and the *RCRA Public Participation Manual* (USEPA, 2017). The activities are presented below in the order of those required to occur at particular milestones throughout the program followed by those that are appropriate for the program based on community interest or project circumstances.

5.1 Point of Contact (POC)

For questions related to the environmental cleanup actions at LHAAP, community members should contact the following representative.

Longhorn Army Ammunition Plant Environmental Division
BRAC Field:
Rose M. Zeiler, PhD
Longhorn Army Trailer
Groundwater Treatment Plant Compound
Highway 134 and Spur 449
Karnack, Texas 75661
rose.m.zeiler.civ@mail.mil
479-635-0110

Additional contact information including media, citizens groups, regulatory and federal, state and local elected officials are provided in **Appendix D.**

5.2 Information Repository/Administrative Record

The Information Repository for LHAAP is established and maintained at the Marshall Texas Library. A public Information Repository is required under CERCLA to provide interested parties with background and technical information about the environmental cleanup program at LHAAP. The Information Repository includes work plans, technical reports, summary documents, and other information of public interest (e.g., fact sheets and news releases). Examples of items currently contained in the Information Repository include:

- The Installation Action Plan;
- Facility Assessments;
- Facility Investigation Reports;
- Cleanup Work Plans and Reports;
- Site Closure Documentation;
- Correspondence with the regulatory community; and
- Collections of press releases, community notices, public meeting minutes, and fact sheets.

The Administrative Record for LHAAP is located and maintained at the Marshall Texas Library, at the Longhorn Army Trailer Groundwater Treatment Plant Compound, and at www.longhornaap.com/admin-record. For sites undergoing CERCLA investigations, the NCP requires that an Administrative Record be established at or near the facility under investigation.

The Administrative Record includes information that may form the basis for selecting a response or RA. It includes all documents leading to the selection of any response action at the installation and contains documents similar to those located in the Information Repository.

The addresses and phone numbers for the locations of the Information Repository and Administrative Record are presented in **Appendix B**.

5.3 Fact Sheets

Fact sheets will be prepared, as appropriate, to support LHAAP's community outreach program. Fact sheets are designed to provide information about planned technical activities. Fact sheets will be distributed by e-mail and at meeting, and maintained in the Information Repository.

5.4 Public Notices, Meetings, and Comment Periods

The installation will comply with the requirements for public notification, the review of PPs and public comment periods. Public notices will be placed in local newspapers to serve as official notification to the local community of plans for environmental activities, upcoming public involvement opportunities, and the availability of documents in the Information Repository.

Public meetings, both informal and formal, are intended to inform the community about ongoing site activities and to discuss and receive feedback from the public on proposed courses of action. All meetings will be announced through public notices, news releases, e-mail or direct mailings, or a combination of the three. Meetings will be held at a location that is easily accessible to the general public. Fact sheets, including contact information for additional information, will be prepared to support all PPs and, as necessary, to support other meetings and presentations. Current and suggested meeting locations are provided in **Appendix E**.

Public comment periods will be made available at specific phases or milestones in the cleanup process depending on the regulation that is guiding the cleanup at a particular site. A public comment period lasts for at least thirty (30) calendar days under CERCLA guidance, allowing time for review and comment on the proposed action. Public comments will be recorded at these meetings and will be responded to through a responsiveness summary.

5.5 Responsiveness Summaries

A responsiveness summary will be prepared and issued to address comments received from the public. At the conclusion of public comment periods, the Army will prepare, a responsiveness summary or minutes that summarize and respond to the comments received during the public comment period, including those comments given at the public meeting. The responsiveness summary is issued as part of the document under comment and made available in the Information Repository listed in **Appendix B**.

5.6 Mailing List Update

Mailing lists are an important component of effective community outreach which ensure that interested community members, as well as other stakeholders and communities impacted by or interested in response activities, are kept informed of activities and opportunities for community involvement. An email mailing list is used to distribute information for meetings.

The installation will add individuals upon request to the mailing list, and will update the list as necessary and appropriate. A mailing list can be developed upon request for those community members and stakeholders who prefer to receive project information via the U.S. postal service.

5.7 Speaker Bureaus/Open House

As program milestones are achieved, project representatives notify and meet with stakeholders (including regulatory agency representatives and the public, as needed) to discuss project status and field questions about proposed restoration actions. Additionally, speakers from the installation may be available upon request to meet with and discuss restoration program activities with civic and/or environmental organizations. Interested organizations should contact the Army POC; see Section 5.1.

5.8 CIP Updates

The CIP will be updated at least every five years or earlier if there are significant program changes. This CIP is a working document to guide the project staff. All or part of this plan may require revision due to new information or changes in community concerns and needs. The plan will be

re-evaluated at these times to ensure that the schedule of community participation activities is appropriate.

5.9 Activity Schedule

The public will be notified of any PPs and actions through public meetings and comment periods. Exact dates of the cleanup activities are not provided for two reasons. First, the exact date that each phase in the Army cleanup process will be completed is not known. Second, different sites can be in different phases in the process depending on when each site was discovered, the relative risk or cleanup priority of the site, and funding available for cleanup. The community involvement activities are summarized in **Table 4**.

5.10 Community Grant Opportunities

The Technical Assistance for Public Participation (TAPP) is a funding opportunity available only to community members of an established RAB who need technical assistance in interpreting scientific or engineering issues connected with proposed cleanup activities. If an Army installation does not have an established RAB, community members are not eligible for TAPP. Previously, two TAPPs were established at LHAAP; September 1999 and March 2003. Community members of an established RAB who are interested in applying for TAPP must contact their applicable Army POC (see Section 5.1) to confirm eligibility and request Army funding.

The Technical Assistance Services for Communities (TASC) program, which is partially funded by grants from the USEPA, helps communities understand the environmental cleanup and site reuse process. This program provides communities with independent educational and technical information needed to actively participate in solving environmental problems. While TASC primarily supports the Superfund program, support may also be provided to communities impacted by the RCRA or federal facilities or dealing with air or water environmental problems. Specific information regarding the TASC program is available at the following website: http://www.epa.gov/superfund/community/tasc. A Technical Assistance Grant (TAG) program is currently in place at LHAAP.

Table 4. Community Involvement Activities During Restoration

Public Participation Activities	Environmental Restoration Program Steps								
	Preliminary Assessment	Site Inspection	Pre-Remedial Investigation	Remedial Investigation	Feasibility Study	Proposed Plan	Pre-Record of Decision	Record of Decision	RD, RA, & LTM/LTO
Contact State/Local Officials	D	D		D	D			D	D
News Release	D	D		D	D	D			D
Workshops		D		D	D				
Community Interviews			R (5)						
Community Involvement Plan			R						
Establish Information Repository and Inform Public			R						
Discuss Technical Assistance for Public Participation (TAPP) with RAB			R (1)						
Fact Sheet				D	D	R (2)			R
Public Notice				R		R		R	
Public Meeting (3)						R			
Public Comment Period						R			
Responsiveness Summary							R		
Revise Proposed Plan (4)							R		
Second Comment Period (4)							R		
Revise CIP								R	

R = Required D = Desired

(1) = Applicable only to installations that have an active RAB. If site is listed on NPL after the RI begins, then the availability of TAPP is publicized at that time.

(2) = Either a fact sheet summarizing the PP, or the complete PP document, must be made available to the public for review (USEPA, 2005).

(3) = The opportunity for a public meeting is required. If such a meeting is held, then a transcript must be kept and made available to the public.

(4) = Revise PP and provide second comment period if significant changes regarding proposed selected remedy are made prior to the ROD and those changes could not have been reasonably anticipated by the public.

(5) = Community Interviews are done for the Longhorn Army Ammunition Plant as a whole with CIP development and not for each site.

6.0 REFERENCES

DoD Manual 4715.20, *Defense Environmental Restoration Program Management*, March 2012.

DoD *Relative Risk Site Evaluation Primer*, 1996.

Office of the Secretary of Defense, *Restoration Advisory Board Handbook*, February 2007.

PB&A, Inc., *Community Involvement Plan for Longhorn Army Ammunition Plant, TX*, November 2013.

U.S. Army, Army Regulation (AR) 200-1, *Environmental Protection and Enhancement*, 2007.

U.S. Army, Army Regulation (AR) 360–1, *The Army Public Affairs Program*, October 15, 2000.

USAEC, *Longhorn Army Ammunition Plant Installation Action Plan*, September 2016.

USAEC, *Restoration Advisory Board and Technical Assistance for Public Participation Guidance*, 2005.

USEPA, *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*, July 1999.

USEPA, *National Oil and Hazardous Substances Pollution Contingency Plan (The NCP)*, January 1992.

USEPA, *Resource Conservation and Recovery Act (RCRA) Public Participation Manual*, 2017.

USEPA, *Superfund Community Involvement Handbook*, January 2016.

factfinder.census.gov

www.cityofuncertain.com

www.epa.gov

www.harrisoncountytexas.org

www.longhornaap.com

FIGURE

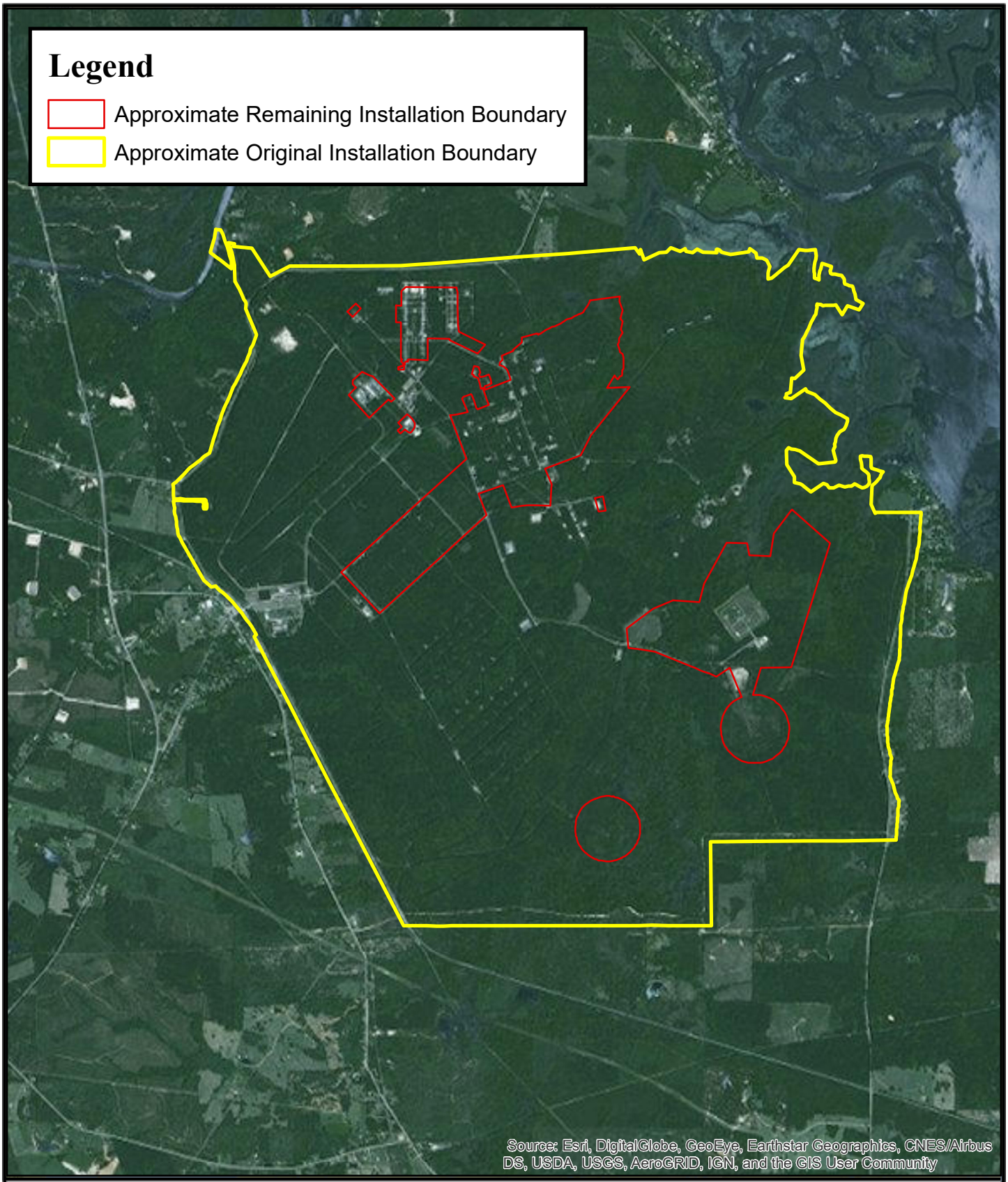

FIGURE 1. INSTALLATION LOCATION MAP

DAWSON

COMMUNITY INVOLVEMENT PLAN
LONGHORN ARMY AMMUNITION PLANT
HARRISON COUNTY, TEXAS

1 inch = 5,000 feet

Feet

0 2,500 5,000 7,500

APPENDIX A

CERCLA/RCRA Equivalents

CERCLA	RCRA
Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)
Site Inspection (SI)	Confirmation Sampling (CS)
Remedial Investigation/Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)
Proposed Plan (PP)/ Record of Decision (ROD)	Statement of Basis
Remedial Design (RD)	Design (DES)
Remedial Action (Construction) (RA-C)	Corrective Measures Implementation (Construction) (CMI-C)
Remedial Action (Operation) (RA-O)	Corrective Measures Implementation (Operation) (CMI-O)
Long-term Management (LTM)	Long-term Management (LTM)
Interim Remedial Action (IRA)	Interim Measure (IM)

CERCLA	RCRA UNDERGROUND STORAGE TANK (UST) TERMS
Preliminary Assessment (PA)	Initial Site Characterization (ISC)
Remedial Investigation (RI)	Investigation (INV)
Feasibility Study (FS)	Corrective Action Plan (CAP)
Remedial Design (RD)	Design (DES)
Remedial Action (Construction) (RA-C)	Implementation (Construction) (IMP-C)
Remedial Action (Operation) (RA-O)	Implementation (Operations) (IMP-O)
Long-term Management (LTM)	Long-term Management (LTM)
Interim Remedial Action (IRA)	Interim Remedial Action (IRA)

APPENDIX B

Information Repository and Administrative Record Locations

Information Repository:
Marshall Texas Library
300 South Alamo
Marshall, Texas 75670

Administrative Record:
Longhorn Army Trailer
Groundwater Treatment Plant Compound
Highway 134 and Spur 449
Karnack, Texas 75661

And

www.longhornaap.com/admin-record

APPENDIX C

2015 CIP Questionnaire

LHAAP Updated CIP Questions:

1. How long have you lived in this community? What do you do for a living?
2. How would you describe the current relationship between the community and the installation?
3. Are you familiar with the site/restoration program? If so, do you feel you have the opportunities you need to learn about it/have input regarding the program/site?
4. Please explain why this site is important to you?
5. What information do you want about the site/restoration program? What do you think the community wants to know?
6. What are your biggest issues/concerns and or fears about the protection or development of the site? Are there any additional issues, concerns or fears you have heard voiced by others in the community?
7. What is your current source of information about the restoration program/site?
8. Are there community or church bulletin boards, storefronts, or other places where people post notices or signs about local events or activities? Where are the best places to post signs or notices about site activities and events?
9. What are the most popular newspapers, TV stations, and radio stations in the area?
10. Have you had any contact with local, state, or other officials regarding the installation's environmental restoration program?
    a. If so, what was the nature of the contact?
    b. What kind of response did you receive?
11. Are you aware that the Former Longhorn AAP conducts a Restoration Advisory Board meeting quarterly? Do you get information from RAB members? Do you feel they represent your interests regarding the program/site?
12. Any concerns or suggestions of other RAB meeting locations? What locations should meetings be held?
13. Have you observed public notices identifying the time and location of these meetings?
14. Do you understand the information bulletins, fact sheets etc., being shared with the public about the site?
15. Have you visited the site webpage? It is located at http://www.longhornaap.com/. What did you think of it? What information was helpful? What aspects need improvement?

16. Are you aware of the information repository that is available for public use? It is located at the Marshall Public Library as well as the Longhorn website.

    a. Have you used or do you think you would use the information repository?

    b. What would you like to see in the repository?

    c. Is the current location of the information repository convenient for you? If no, where would be convenient for you?

    d. Have you used the administrative record on the web page?

17. Do you know anyone that would like to be added to the site mailing list? If so, would it be ok to get their contact information?

18. Do you have any other comments, questions, or concerns about the installation?

APPENDIX D

Additional Contact Information

RAB Announcement Outlets:

- Longhorn Army Ammunition Plan Environmental Restoration Program
  www.longhornaap.com

Newspaper

LHAAP publishes RAB meeting notices in the following newspaper:

- The Marshall News Messenger
  309 East Austin Street
  Marshall, Texas 75670
  903-925-7914
  www.marshallnewsmessenger.com

Radio

LHAAP airs RAB meeting public service announcements on the following radio stations:

- KMHT Radio 103.9FM (1450AM)
  2323 Jefferson
  Marshall, Texas 75670
  903-923-8000
  info@kmhtradio.com
  www.easttexastoday.com/kmht.php

- KISS Country 93.7FM
  6342 Westport Avenue
  Shreveport, LA 71129
  318-320-5477
  mykisscountry937.com

- Alpha Media Shreveport / 98.1FM
  208 North Thomas Drive
  Shreveport, Louisiana 71107
  318-223-3122
  www.alphamediausa.com

- Townsquare Media Shreveport / 98.9FM
  6341 Westport Avenue
  Shreveport, Louisiana 71129
  318-688-1130
  www.townsquaremedia.com

Television
LHAAP places RAB meeting public service announcements on the Community/Local Events Calendars on the following television station websites:

- ABC Channel 3-1 KTBS-TV
  www.ktbs.com

- NBC Channel 6-1 KTAL-TV
  www.arklatexhomepage.com

- KSLA News 12 Shreveport
  www.ksla.com

Churches
LHAAP sends out RAB notice via mail to the following churches:

- Karnack Baptist Church
  902 TJ Taylor Avenue
  Karnack, Texas 75661

- Old Border Baptist Church
  680 Lotta Road
  Karnack, Texas 75661

- Antioch Baptist Church
  410 FM 1999
  Karnack, Texas 75661

- Church of Uncertain
  2936 Dorough Road
  Karnack, Texas 75661

- Karnack Methodist Church
  925 TJ Taylor Avenue
  Karnack, Texas 75661

Community Locations
LHAAP posts RAB meeting fliers on Community Boards at the following locations:

Shady Glade Café, Circle S Grocery, Caddo Grocery, Run In Grocery, Fyffes Corner Store, Caddo Lake State Park, Family Dollar Store, Convenience Stores at FM9 and FM199, and the Karnack Post Office.

Local Groups:

- Caddo Lake Area Chamber of Commerce and Tourism
  P.O. Box 228
  Karnack, Texas 75661
  info@caddolake.org

- Marshall Texas Chamber of Commerce
  208 East Burleson Street
  Marshall, Texas 75670
  903-935-7868
  contactus@mashalltexas.com

Regulatory Contacts:

- U.S. Environmental Protection Agency, Region VI
  1445 Ross Avenue, Suite 1200
  Dallas, Texas 75202
  1-800-887-6063
  https://www.epa.gov/aboutepa/contact-epas-region-6-south-central-office

- Texas Commission on Environmental Quality
  (TCEQ)
  12100 Park 35 Circle
  Austin, Texas 78753
  512-239-1000
  ac@tceq.texas.gov

  Mailing address:
  TCEQ
  P.O. Box 13087
  Austin, Texas 78753

Federal Elected Officials:

- Senator John Cornyn (R-TX)
  - Washington, DC Office
    517 Hart Senate Office Building
    Washington, DC 20510
    202-224-2934

- East Texas Office
  Regions Bank Building
  100 East Ferguson Street, Suite 1004
  Tyler, Texas 75702
  903-593-0902

- Senator Ted Cruz (R-TX)
  - Washington, DC Office
    Russell Senate Office, Building 404
    Washington, DC 20510
    202-224-5922

  - East Texas Office
    305 South Broadway, Suite 501
    Tyler, Texas 75702
    903-593-5130

- Congressman Louie Gohmert (R-TX, 1st District)
  - Washington, DC Office
    2243 Rayburn HOB
    Washington, DC 20515
    202-225-3035

  - Tyler Office
    1121 ESE Loop 323, Suite 206
    Tyler, Texas 75701
    903-561-6349

State Elected Officials:

- Governor Greg Abbott
  Office of the Governor
  P.O. Box 12428
  Austin, Texas 78711
  512-463-2000

- Lieutenant Governor Dan Patrick
  Statehouse Address
  P.O. Box 12068
  Austin, Texas 78711
  512-463-0001

- Senator Bryan Hughes (R, Senate District 1)
  - Capitol Office
    P.O. Box 12068
    Capitol Station
    Austin, Texas 78711
    512-463-0101
    www.senate.texas.gove/member.php?d=1#Office

  - District Address
    100 Independence Place, Suite 301
    Tyler, Texas 75703
    903-581-1776

- Representative Chris Paddie (R, House District 9)
  - Capitol Office
    Room E2.502
    P.O. Box 2910
    Austin, Texas 78768
    512-463-0556
    http://www.house.state.tx.us/members/member-page/?district=9

  - District Address
    102 West Houston Street
    Marshall, Texas 75670
    903-935-1141

Local Elected Officials:

Harrison County

- County Commissioner Zephaniah Timmins (Precinct 2)
  #1 Peter Whetstone Square, Room 307
  Marshall, Texas 75670
  903-935-8402 x-1012

Mayors/City Council:

- **City of Uncertain**
  Mike Fox
  199 Cypress Drive
  P.O. Box 277
  Uncertain, Texas 75661
  405-821-0076
  info@cityofuncertain.com

APPENDIX E

Meeting Locations

Current Meeting Location:

Karnak Community Center
Kay Street and Highway 134
Karnack, Texas 75661

(Designated RAB meeting location).

Suggested Meeting Locations:

The following locations were recommended by (three or more) respondents:

- Karnack Town Hall
- Marshall Convention Center
- Marshall High School
- USFWS Wildlife Refuge
- Uncertain City Hall
- Caddo Lake State Park Meeting Hall
- River Bend